4.0 PROGRAMMATIC IMPACT ASSESSMENT OF SAMP/WSAA PROCESS AND REGULATED ACTIVITIES

4.1 INTRODUCTION

The proposed SAMP establishes a watershed-specific permitting process with the Corps using a Regional General Permit (RGP) and Letters of Permission (LOPs) to authorize the discharge of dredged and/or fill materials into waters of the U.S. pursuant to Section 404 of the Clean Water Act (CWA) (33 USC 1344). The SAMP permitting procedures also include the establishment of a WSAA Process to authorize alterations to the bed, bank and channel of lakes or streambeds pursuant to Section 1600 *et seq.* of the California Fish and Game Code (FGC). This section provides a programmatic impact assessment of seven categories of regulated activities expected in the Watershed under the proposed SAMP/WSAA Process.

A summary of the differences between existing and proposed watershed-specific permitting processes within the Watershed is provided in Table 2-2 of Section 2.1.2.3, Table 2-6 of Section 2.1.2.4 and Tables 2-15 and 2-16 of Section 2.1.6. The proposed permitting process would require substantial pre-application requirements for applicants seeking a permit for regulated activities within the Watershed. Considering the proposed General Conditions and Strategic Mitigation Plan developed specifically for the Watershed, the proposed SAMP Permitting/WSAA Process (RGP, LOP, WSAA Process) is expected to result in less than minimal impacts, both on an individual site level and on a cumulative Watershed level. This process is expected to result in a more protective program with respect to aquatic resources in the Watershed. Section 2.1.6 discusses the expected, beneficial effects of the new permitting process within the Watershed.

4.1.1 Defining Significance Thresholds

Evaluation of impacts in the following sections assumes implementation of the SAMP/WSAA Process including the proposed general conditions of the RGP, LOP, and WSAA Process (including Level 1, 2 and 3 SAA templates), Strategic Mitigation Plan and Mitigation Coordination Program. Because of the differences between NEPA and CEQA with respect to identification of impacts as significant or not significant, the discussion of impacts includes applicable CEQA thresholds for each topic area and an ultimate conclusion with respect to the significance of analyzed impacts, even though these are not required for the NEPA EIS analysis.

Under NEPA, significance is used to determine whether an EIS is required. NEPA requires the preparation of an EIS when the proposed federal action (project) as a whole has the potential to "significantly affect the quality of the human environment." The determination of significance is based on context and intensity. In comparison to CEQA, some impacts determined to be significant under CEQA may not be of sufficient magnitude to be determined significant under NEPA.

CEQA requires the identification of each "significant effect on the environment" resulting from the project and should include mitigation measures suitable for mitigating each significant effect. A potential significant effect on any environmental resource triggers the preparation of an EIR. Every significant effect on the environment must be disclosed in the EIR and mitigated, if feasible.

4.1.2 Direct versus Indirect Impacts

The proposed SAMP/WSAA Process and associated Strategic Mitigation Plan and Mitigation Coordination Program are being evaluated at a program level for potential impacts of regulated activities that could be permitted under the SAMP/WSAA Process for the Watershed. Authorization of regulated activities, such as land development and infrastructure construction and maintenance may result in certain ***direct*** impacts on jurisdictional resources of the Watershed (i.e., discharges of dredged and fill material into jurisdictional waters, as described in detail later in this section). Authorization of these regulated activities can also have ***indirect*** effects occurring later in time or further removed in distance than the direct effect. For example, loss of habitat (direct effect) can produce indirect effects on adjacent upland habitats (edge effects) and facilitate the influx of exotic species into riparian areas (indirect effect). Increased discharges from site- runoff or storm water outfalls into the stream (direct effect) could result in hydro modification of downstream areas (indirect effect) and may lead to wetland type changes (e.g. saline wetland to freshwater wetland).

For many projects that seek authorization under the SAMP/WSAA Process, other local permitting approvals independent of the Corps and the Department approvals, would likely be required before actual construction of the project. The construction and operation of a given project may produce impacts that would be considered an ***indirect*** result of the Corps/Department approvals. These indirect impacts may occur throughout the Watershed area, not just in Corps/Department jurisdictional areas. These would be considered ***indirect*** impacts as they would occur later in time or further removed in distance from the direct effect. Such indirect impacts of construction and operation of a project could include increases in traffic and noise, increases in mobile source emissions, and increases in utility usage and water consumption. The Corps typically reviews these indirect effects as Public Interest Review Factors or for compliance with other applicable federal laws. Many of these future projects would be subject to local permitting approvals, independent of the Corps/Department approvals, where these other types of environmental impacts and any associated mitigation measures would be fully disclosed in a separate CEQA document. Therefore, discussions in this section distinguish, where appropriate, direct versus indirect impacts of the proposed SAMP/WSAA Process (e.g. those direct and indirect impacts in jurisdictional areas authorized by Corps/Department through the SAMP/WSAA Process versus those indirect impacts in the greater Watershed area, occurring later in time, indirectly resulting from Corps/Department approvals and analyzed in future CEQA documents required for local agency approvals).

4.1.3 CEQA Mitigation versus SAMP/WSAA Process Mitigation

To help explain and clarify the following programmatic impact evaluation, a brief discussion highlighting the difference between CEQA mitigation and SAMP/WSAA Process mitigation is provided here. CEQA documents typically contain mitigation measures to minimize impacts of a project to below a level of significance. Mitigation measures are not features of the project or compliance requirements of other regulatory policies or programs. CEQA mitigation measures are separate structural or procedural methods identified by the lead agency during the CEQA impact analysis process to minimize significant impacts of a proposed project.

In contrast, the proposed SAMP/WSAA Process contains specific compensatory mitigation requirements (mitigation framework) to address temporary and permanent impacts to jurisdictional areas. This mitigation framework is an inherent "project feature" of the SAMP/WSAA Process. To effectively implement the required compensatory mitigation under the SAMP/WSAA Process, the program also includes a Strategic Mitigation Plan and Mitigation Coordination Program that would be used to target mitigation/restoration to areas that would provide the greatest functional benefit to the Watershed ecosystem and effectively manage the mitigation areas over the long-term.

With this difference in mind, the reader will note that for many environmental topic areas, no CEQA mitigation measures are listed, since through the impact analysis process, it was concluded that the SAMP/WSAA Process compensatory mitigation requirements (and sometimes general conditions of the SAMP LOP, RGP, and Level 1, 2 and 3 SAA templates of the WSAA Process), no additional mitigation under CEQA is needed to minimize impacts to below a level of significance. In other words, in many cases the SAMP/WSAA Process is self-mitigating and no additional mitigation measures under CEQA are needed to minimize significant impacts.

4.2 AQUATIC, WETLAND, AND RIPARIAN HABITATS

4.2.1 Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. The following standards of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this analysis, an impact is considered significant if the proposed project would:

- Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, regulations or by the Department or USFWS; or
- Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc.) through direct removal, filling, hydrological interruption, or other means.

The CEQA significance criteria listed above relate to wetland and riparian areas as discussed in this section. Riparian habitats, although not directly mentioned in FGC Section 1600 *et seq.* are listed in Appendix G of the Guidelines as an important issue to consider. Other evaluation criteria, such as consistency with the federal and state no net loss (of wetlands) policy, are discussed in Section 9. This programmatic impact analysis utilizes the two CEQA criteria listed above as well as topics from the Section 404(b)(1) Guidelines (Table 4-1).

Table 4-1. Comparison of Corps 404(b)(1) Guidelines and CEQA Appendix G

Topics	404(b)(1) Guidelines	Appendix G^
Special Aquatic Sites (e.g., wetlands)	230.10 (c 1-3) Subpart E	IV (c)
Riparian Habitat	Not directly mentioned.	IV (b); FGC 1602*

*^ Roman numerals relate to the text of Appendix G. *Department, FGC 1600* et seq. *Section 1602(a)(4)(B) – Does the activity "substantially adversely affect an existing fish and wildlife resource…"? The terms* riparian *and* wetland *do not occur in FGC 1600* et seq.

4.2.2 Programmatic Impact Analysis - Overview

All future activities in the Watershed requiring authorization from the Corps and Department would be evaluated by these agencies for their consistency (or lack thereof) with the SAMP/WSAA Process. If a proposed activity is consistent with the SAMP/WSAA Process, then it is not expected to have a significant adverse impact. With implementation of the proposed permitting program's key elements mentioned below, impacts from these activities are expected to be either (a) below a level of significance or (b) below a level of significance after incorporation of additional site-specific mitigation measures. In other words, the project elements of the SAMP/WSAA Process include criteria and mitigation such that a *consistent* activity, by definition, would also be one with less than significant impacts. In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area.

Otherwise, a *non-consistent* activity would proceed using the current permitting program in effect in the Watershed, which would be a Corps standard individual permit (SIP) and Department individual streambed alteration agreement (SAA). Any non-consistent activity type (e.g., one with potentially significant impacts to aquatic, wetland, and riparian habitats), is by definition outside the scope of this programmatic impact evaluation, and would be evaluated in subsequent NEPA/CEQA documentation. Authorization would include the preparation of a NEPA Environmental Assessment (EA) or EIS, a CEQA Negative Declaration or EIR, an additional evaluation of compliance with the 404(b)(1) Guidelines, consistency with the SAMP/WSAA Process mitigation policies for the Watershed, a separate cumulative impacts determination, and additional mitigation measures. Consideration of impacts to aquatic resources within high and medium quality integrity areas and consistency with SAMP Tenets would also be considered.

The SAMP/WSAA Process includes several key elements to ensure future activities authorized through the RGP, LOP, WSAA Process result in less than significant impacts to aquatic, wetland, and riparian habitats. The RGP/LOP General Conditions, in particular, are mentioned in the following sub-sections as important criteria for ensuring less than significant impacts. The following elements are organized within the four-part SAMP structure (Analytical Framework, Permitting Program including the mitigation framework, Strategic Mitigation Plan, and Mitigation Coordination Program):

Analytical Framework (Avoidance and Minimization at watershed scale)

- Identification of high and medium quality integrity areas as aquatic resource integrity areas, which are priority impact avoidance areas.
- Implementation of the SAMP Tenets.
- Restrictions on use of certain permitting procedures for activities inside/outside high and medium quality integrity areas.

Permitting Program and Mitigation Framework (Avoidance, Minimization, Mitigation at site-specific and watershed scales)

- Pre-application requirements, including agency coordination.
- General conditions for RGP and LOP (discussed in more detail below).
- RGP for temporary impacts only.
- Revocation of selected NWPs for use in Watershed.
- Application of general and activity-specific conditions for the WSAA Process.
- Sequencing requirements addressed by development of the Analytical Framework based on Watershed-wide analysis of anticipated activities and development alternatives, and through the identification of aquatic resource integrity areas that would inform the realm of potential offsite alternatives within the Watershed. The Analytical Framework would inform the expectations for avoidance and minimization (i.e., avoidance of aquatic resource integrity areas). Site-specific avoidance and minimization may still be required, either with or without a formal alternatives analysis, if there are potential impacts to moderately to well-matured wetland or riparian vegetation located outside of the aquatic resource integrity areas. Through application of the permitting procedures, the Corps would authorize projects/activities that either would need to demonstrate they are the Least Environmentally Damaging Practicable Alternative (LEDPA) (for SIPs and some LOPs) or that they meet criteria to ensure it is the LEDPA (for RGPs and some LOPs).
- Demonstration of no net loss in acreage or functions (hydrologic, water quality, and habitat integrity).
- Long-term, adaptive management and legal protection of restoration sites.

Strategic Mitigation Plan and Mitigation Coordination Program (Mitigation at site-specific and watershed scale)

- Priority restoration areas for maximum "functional lift" (watershed and site-specific scale).
- Recommended site design templates for riparian ecosystem restoration.
- Facilitation of landowner participation and coordination to provide long-term management of aquatic resource integrity areas.

Additional site- and project-specific mitigation measures

Site and project-specific measures may be added to any RGP, LOP, or WSAA Process if required to ensure impacts would remain below a level of significance. The Corps and Department would retain their

respective discretionary authorities to augment the SAMP/WSAA Process mitigation framework requirements for any proposed project that is inconsistent with the SAMP/WSAA Process or fails to meet any of the terms and conditions of the RGP, LOP, retained NWPs, or Level 1 – 3 SAA templates of the WSAA Process. If the project remains inconsistent with the SAMP/WSAA Process, then a SIP review process would be required (see below), which would entail supplemental NEPA review and 404(b)(1) analysis.

4.2.3 Programmatic Impact Analysis- Proposed Regulated Activities

The following programmatic impact analysis outlines potential impacts to aquatic, wetland, and riparian areas from the seven categories of regulated activities under the proposed SAMP/WSAA Process. The regulated activities that would be permitted under the SAMP/WSAA Process are similar to those that would otherwise be permitted on case-by-case basis under existing Corps/Department Section 404 and Section 1600 *et seq*. programs. As such, potential impacts from these regulated activities would be expected to be similar in nature to those authorized under the existing regulatory programs. However, the SAMP/WSAA Process was established based on a holistic, Watershed-wide evaluation of aquatic resources from which permit conditions, compensatory mitigation, and targeted restoration requirements were developed to help maintain and improve the ecosystem function over the entire Watershed. Comparatively, the current permitting process is conducted on a case-by-case project basis with no holistic plan for compensatory mitigation. Therefore, potential impacts of regulated activities under the SAMP/WSAA Process would be expected to be similar or even less detrimental to the Watershed overall, in comparison to existing permitting programs because compensatory mitigation would be targeted to areas providing the greatest functional benefit to the Watershed's ecosystem. The compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve and enlarge key habitat areas.

Utility Lines (Construction and Maintenance)

As with existing Corps/Department permitting programs, construction and maintenance of utility lines (such as pipelines, conduits, cables, utility poles and towers associated with the conveyance of water, sewage, gas/oil, or transmission of electricity) that would be permitted under the SAMP/WSAA Process could result in discharges of dredged or fill material into jurisdictional waters and streambeds. The discharges may result from required grading, excavation, boring, backfill, and or bedding, temporary stream diversion, dewatering operations, temporary construction access roads and work areas.

Temporary Impacts

Temporary impacts to federally and state-listed species and their upland and riparian habitats can occur from the installation and maintenance of utility lines. Temporary, impacts to species and their upland and riparian habitats may result from required grading, stockpiling, trenching, temporary stream diversion, dewatering operations, temporary construction access roads, and work areas.

Construction activities could temporarily displace sensitive wildlife. Human activity would cause most sensitive wildlife species to avoid an area until the disturbance conditions are eliminated. Bird populations and other mobile species would retreat from an area until after construction is complete and reoccupy the area following revegetation. During temporary ground disturbing activities, less mobile

wildlife and plants would be eliminated if located within the project footprint. Impacts to wildlife species are expected to be of limited duration.

Temporal loss of habitat from construction of trenches may occur if across intermittent or perennial streams with riparian habitat, or across ephemeral streams within or adjacent to coastal sage scrub. These areas would remain unvegetated until after project completion. These temporary construction areas may serve to temporarily disconnect habitat corridors used by listed species.

Noise generated during construction and maintenance of utility lines can have an indirect impact on listed wildlife species during the temporary work period. Noise can cause sensitive wildlife species to avoid an area until the disturbance conditions are eliminated. Bird populations and other mobile species would retreat from an area until after construction was complete. In addition, noise can cause potential disruption of breeding activities of wildlife inhabiting wetland and riparian areas. In addition, downstream effects (indirect impacts) may result from a potential discharge of construction-related pollutants (e.g., concrete, waste oil, solvents, debris, etc) spilled, leaked or transported via storm runoff into receiving waters.

Permanent Impacts

The vast majority of new utility projects would service new developments; therefore, most impacts associated with these facilities would be evaluated in the land development category. Relatively few new above-ground utilities are expected to be constructed using the SAMP RGP, LOP, or WSAA Process permitting processes. Thus, permanent alteration of habitat is not anticipated to any significant extent. Yet, some permanent impacts, provided compliance with the SAMP/WSAA Process conditions and the completion of mitigation, may occur. Such long-term impacts could occur in wetland and riparian areas where vegetation would be cleared. Vegetation removed in these areas would require a relatively longer period for reestablishment. The loss of vegetation could affect wildlife species by reducing available refuge areas, foraging habitat, and nesting/roosting areas for species.

Some utility line projects have the potential to reduce the hydrologic and habitat connectivity of riparian reaches. Some of these fragmentation impacts may be addressed through proper project design elements (e.g., preservation of corridors and habitat linkages). Through the planning process of the SAMP/WSAA Process, and agency coordination between 2000 and 2006 by the Participating Applicants, many such reach- and watershed-scale direct and indirect impacts to the Watershed have been avoided and minimized. Under the SAMP/WSAA Process, future land development activities must comply with the terms and conditions associated with the permitting and mitigation requirements of the SAMP/WSAA Process. As a consequence, potential impacts to high and medium integrity riparian reaches would be avoided and impacts to wetland and riparian areas would be less than significant. Additionally, implementation of prioritized restoration plans (Corps 2004, 2006), as specified in the Strategic Mitigation Plan and Mitigation Coordination Program, would serve to reconnect areas previously fragmented, and ensure the sustainability of these aquatic resources. Thus, the SAMP/WSAA Process permitting and mitigation requirements would reduce potential fragmentation impacts from utility line activities to less than significant levels.

Conditions applicable to mitigating potential impacts are provided below. LOP and RGP general conditions are fully described in Tables 2-3 and 2-4 of Section 2.1.2.3, respectively, and the SAA Templates Master Conditions List of the WSAA Process is summarized in Table 2-7 of Section 2.1.2.4, and provided in full in Appendix D. (Note that the above-mentioned documents include more conditions than shown below).

- RGP: Conditions that relate to avoiding, minimizing, and compensating for impacts to wetland and riparian habitats include: 2-Impact Limits; 3-Eligible Areas; 5-Soil Erosion and Siltation Controls; 6-Equipment; 7-Suitable Materials; 8-Management of Water Flows; 9-Removal of Temporary Fills; 10-Preventive Measures; 11-Staging of Equipment; others.
- LOP: Conditions that relate to avoiding, minimizing, and compensating for impacts to wetland and riparian habitats include 1-Avoidance and Minimization; 2-Ineligible Impacts; 3-Mitigation Policy; 4-Soil Erosion and Siltation Controls; 5-Equipment; 6-Suitable Materials; 7-Management of Water Flows; 8-Removal of Temporary Fills; 9-Preventative Measures; 10-Staging of Equipment; 13-Exotic Species Management; others.
- SAA Templates Master Conditions List of the WSAA Process: Conditions that relate to avoiding, minimizing, and compensating for impacts to wetland and riparian habitats as provided in the categories listed below as well as the SAMP mitigation framework.

1.	Vegetation Removal	Conditions 24 - 34
2.	Routine Channel Maintenance	Conditions 35 – 42
3.	Exotic Vegetation Eradication Control	Condition 43
4.	Placement of Instream Structures	Conditions 46 – 64
5.	Turbidity and Siltation	Conditions 88 – 95
6.	Equipment and Access	Conditions 96 – 109
7.	Additional Mitigation Conditions	Conditions 131 – 140
8.	Additional Resource Protection	Conditions 142 – 154
9.	Fisheries Specific Protection	Conditions 156 - 162

- SAMP mitigation framework policies would apply to RGPs, LOPs, and the WSAA Process. (Section 2.1.2.6 contains details about compensatory mitigation requirements for permanent and temporary impacts. The Department's SAA Templates Master Conditions List also contains mitigation ratios for impacts to Oak/Walnut/Sycamore woodlands as follows:

  a. Minimum acreage requirement for impacts to a large area of Oak/Walnut/Sycamore woodlands shall be a minimum of 3:1 to 20:1 (compensation to impact ratio), with associated understory.

  b. Replacement ratios for impacts to a small area of Oak/Walnut/Sycamore woodlands shall be mitigated on impacts to individual stem counts as follows:

  i. Trees less that 5 inches diameter at breast height (DBH) shall be replaced at 3:1
  ii. Trees between 5 and 12 inches DBH shall be replaced at 5:1
  iii. Trees between 12 and 36 inches DBH shall be replaced at 10:1
  iv. Trees greater than 36 inches DBH shall be replaced at 20:1

c. Replacement ratio for damaged trees less than 12 inches DBH shall be 2:1, and greater than 12 inches DBH shall be 5:1 (compensation to impact ratio), with associated understory.

Due to provisions in the applicable mitigation policies and general conditions of the RGP, LOP, WSAA Process, any impacts from authorizing construction and maintenance of utility lines would be mitigated by restoring the area to pre-project conditions, which may include habitat enhancement and additional mitigation upstream and/or downstream.

Other Applicable Regulations

Water quality-related requirements (e.g., WDRs, Section 401 Certifications, BMPs, etc.), as discussed in the Section 4.5 Water Quality, would provide additional safeguards against degradation of wetland and riparian habitats. It is likely the permitting and mitigation requirements of the SAMP/WSAA Process in combination with other water quality regulatory requirements would avoid or mitigate any potential adverse impacts resulting from future utility line projects in the Watershed. In the event that a future utility project requires additional environmental review under CEQA or NEPA, supplemental, project-specific mitigation may be required.

Impact Analysis Conclusion

The permitting and mitigation requirements established by the SAMP/WSAA Process allow for increased protection of aquatic resource integrity areas, as well as a more efficient riparian ecosystem restoration program for the entire Watershed. General conditions and permit requirements of the RGP, LOP WSAA Process are clear, and mitigation is set up to be efficient and successful. No significant impacts are anticipated because any activities authorized under the new SAMP/WSAA Process would be subject to conditions of the RGP, LOP, and Level 1 – 3 SAA templates of the WSAA Process and other agency permitting programs (e.g., water quality). In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area. Therefore, implementation of the SAMP/WSAA Process for utility projects would not be expected to result in substantial adverse effects on any riparian habitat or other sensitive natural community; or have a substantial adverse effect on federally protected wetlands. Potential impacts from the construction and maintenance of utility lines would be considered less than significant.

Mitigation Measures

No additional mitigation measures are needed for construction and maintenance of utility lines because no significant impacts to wetland and riparian habitats are expected.

Level of Significance After Mitigation

No significant impacts are expected.

Flood Control Facilities. The SAMP/WSAA Process would include flood control construction and maintenance as a regulated activity. The exact location and frequency of occurrence of some flood control maintenance activities cannot be known at this time, as many maintenance activities occur on an as-needed basis. With other facilities, though, there is a regular, scheduled maintenance program in place.

Flood control facilities include flood control channels, outfalls, culverts, retention/detention and sediment basins, bank protection, grade stabilizers, storm drain outlets, trash racks, and pump stations, all of which are located within or near waters under the jurisdiction of the Corps and the Department. As under existing Corps/Department permitting programs, construction and routine maintenance of these facilities that could be permitted under the SAMP/WSAA Process may involve grading, trenching, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, sediment removal, channel desilting, and vegetation management and removal affecting the quality of jurisdictional waters.

Temporary Impacts

The maintenance of flood control facilities would likely have some temporary, direct impacts on aquatic, wetland, and riparian habitats from direct habitat disturbance and/or removal, or indirect impacts from erosion and sedimentation. Streams may be diverted during work within these areas, preventing natural flooding or saturation of soils. Flood control activities may increase the potential for invasive, exotic plant species to colonize the sites (an indirect impact). The removal of vegetation may temporarily reduce the ability of these areas to assimilate nutrients from upstream and adjacent activities, as well as provide channel/bank stability against erosion. Vegetation management may occur through mowing or use of herbicides, resulting in impacts that may include the persistence of disturbance-tolerant vegetation or a reduction in overall species diversity from herbicide use. Although these impacts are expected to be temporary in nature, a temporal loss of habitat functions is expected.

The temporal loss would be mitigated by compensatory mitigation required when establishing a maintenance baseline and/or by implementing minimization measures to ensure no substantial decrease in net aquatic resource functions occurs. Compensatory mitigation required when a maintenance baseline is established would allow for upfront compensation for all future, related maintenance activities. The maintenance baseline itself would allow for the avoidance of key aquatic resource elements that provide important functions. Minimization measures would ensure that net functions related to hydrology, water quality, and habitat are not adversely affected. Some examples include retaining root structures of wetland plants within the channel to promote the subsurface denitrification processes, which are dependent on available carbon, or the rotational provision to retain standing biomass that allows for a baseline level of riparian habitat functions for fauna.

Permanent Impacts

Maintenance of flood control channels is expected to occur on a frequent basis. Thus, many of the temporary impacts occurring on a regular basis may in effect be like permanent impacts. Yet, disturbance is part of the natural processes that shape the structure and functioning of aquatic, wetland, and riparian

habitats. Also, the vast majority of flood control maintenance would occur in areas with a long history of maintenance. Thus, areas not subject to frequent maintenance now are not expected to be maintained on a regular basis in the future. The maintenance has been ongoing, and the basin, channel, and bank habitats are not as well developed in many of these areas as other, non-disturbed reaches.

Installation of a new concrete flood control feature in a drainage course containing riparian habitat may adversely affect aquatic resource functions. However, no new structures are expected to be built within or adjacent to riparian habitat under the LOP procedures or RGP. Thus, permanent impacts are not expected to occur as a result of these types of construction projects. Additional restrictions on channelizing specific reaches within the Watershed are being proposed through the proposed conditions; such restrictions will avoid any major permanent impacts. If any new facility projects are proposed in the future, then the projects would be required to undergo a SIP process and may be required to obtain an individual SAA instead of one of the template SAAs of the WSAA Process.

Through the SAMP/WSAA Process, and agency coordination between 2000 and 2006 by the Participating Applicants, many such reach- and watershed-scale direct and indirect impacts to the Watershed have been avoided and minimized. Under the SAMP/WSAA Process, future flood control activities must comply with the terms and conditions associated with the SAMP/WSAA Process permitting and mitigation requirements. As a consequence, potential impacts to high and medium integrity riparian reaches would be avoided and impacts to wetland and riparian areas would be less than significant. Additionally, implementation of prioritized restoration plans (Corps 2004, 2006), as specified in the SAMP/WSAA Process Strategic Mitigation Plan and Mitigation Coordination Program, would serve to reconnect areas previously fragmented, and ensure the sustainability of these aquatic resources. Thus, the permitting and mitigation requirements of the SAMP/WSAA Process would reduce

Requirements and Applicable General Conditions of the RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities. In addition, otherwise permissible activities cannot be issued an LOP if they would: (a) substantially alter a compensatory mitigation site; (b) involve flood-control related conversions of soft-bottom channels to concrete-lined channels; or (c) result in the channelization of any major stream system such as Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek. Such activities would require a review under an SIP process with additional NEPA/CEQA review and 404(b)(1) analysis.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities.

Impact Analysis Conclusion

The permitting and mitigation requirements established by the SAMP/WSAA Process allow for increased protection of aquatic resource integrity areas, as well as a more efficient riparian ecosystem restoration program for the entire Watershed. General conditions and permit requirements of the RGP, LOP, and WSAA Process are clear, and mitigation is set up to be efficient and successful on a Watershed basis. In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any

aquatic resource integrity area. Therefore, implementation of the SAMP/WSAA Process for flood control projects would not be expected to result in substantial adverse effects on any riparian habitat or other sensitive natural community; or have a substantial adverse effect on federally protected wetlands. Potential impacts from the construction and maintenance of flood control projects would be considered less than significant.

Potential impacts would not degrade habitat quality, nor create or contribute runoff that would provide additional sources of polluted runoff. Further, under the SAMP/WSAA Process, where aquatic resource impacts would be primarily focused in areas of low ecosystem integrity, the compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve habitat quality, including functions, in the Watershed to a greater extent than existing Corps and Department permitting programs.

Mitigation Measures

No additional mitigation measures are needed for flood control activities because no significant impacts to wetland and riparian habitats are expected.

Level of Significance After Mitigation

No significant impacts are expected.

Road Crossings including Bridges, and Culverts. Construction of bridges and culverts across or within jurisdictional waters can be necessary to meet local and regional circulation needs associated with continual development of the Watershed, as specified in the County Master Plan of Arterials and Highways (MPAH). Bridges may span the watercourse or be constructed with one or more piers depending on bridge length. As under existing Corps/Department permitting programs, construction and routine maintenance of at-grade crossings, box culverts, pipe culverts, and bridges that would be permitted under the SAMP/WSAA Process may include grading, excavation, compacting and/or filling, vegetation clearing, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, channel desilting, paving operations and vegetation management and removal.

Bridge construction activities would typically be associated with future land development activities however, as the Watershed is almost built-out, significant new bridge construction activities are not expected. Nonetheless, should any new bridge construction activities occur, this analysis reviews the possible temporary and permanent impacts of such activities.

Temporary Impacts

The construction of road crossings such as bridges and culverts would likely have some temporary, direct impacts on aquatic, wetland, and riparian habitats from habitat disturbance and/or removal, or indirect impacts from erosion and sedimentation. The necessity for channel and/or bank stabilization may result in temporary impacts, assuming the design includes buried, un-grouted rip-rap, buried structures, or bioengineering elements. Streams may be diverted during work within these areas, preventing natural flooding or saturation of soils. Construction activities may increase the potential for invasive, exotic plant species to colonize the sites. The removal of vegetation may temporarily reduce the ability of these areas to assimilate nutrients from upstream and adjacent activities, as well as provide channel/bank stability against erosion. Although these impacts are expected to be temporary in nature, a temporal loss of habitat functions is expected. As required by the general conditions and mitigation framework, restoration of these areas plus a requirement to mitigate for temporal losses would ensure the persistence and sustainability of the impacted sites.

It is anticipated that recovery from temporary impacts at one particular site would be completed before impacts would occur in another location. Thus, multiple temporary impacts occurring at the same time are unlikely. These activities are usually completed in a relatively small area within a single riparian reach. Thus, the overall impact on the Watershed is not expected to further degrade the hydrologic, water quality, or habitat functions of affected riparian areas. The temporary nature of these impacts would not reduce the acreage of aquatic, wetland, and riparian resources in the Watershed.

Permanent Impacts

Construction of a new bridge within or over a drainage course containing riparian habitat may adversely affect the structure and functions of these areas, however, mitigation would be implemented in accordance with the permitting and mitigation requirements of the SAMP/WSAA Process. Shading of available sunlight may impact areas located directly under bridges because shading limits the amount and quality of riparian habitat and wetlands that would normally be present in the absence of bridges. Plant species adapted to low-light conditions, such as those adapted to living under a closed riparian forest canopy, would be expected to persist.

Long-term, indirect impacts may include subtle changes in downstream hydrology, which may in turn impact riparian areas from channel incision and/or unnatural scouring. Changes in flooding extent and timing may affect the persistence of riparian plants by reducing the frequency of recruitment events (i.e., new plants colonizing areas from seed or vegetation fragments).

Coordination among agencies and stakeholders through the SAMP formulation process has resulted in requirements for some recently authorized projects to use span bridges rather than culverts in sensitive habitat areas (within applicable development areas only). For any major road construction projects proposing to use culverts in sensitive habitat areas, these projects would likely not meet the criteria for an LOP and would be required to undergo review for an SIP. With a bridge design that includes pilings under a span bridge, shading impacts would be minimized and, overall, there would be minimal disturbance to hydrologic regimes and sediment transport dynamics.

Bridge and culvert projects across the entire Watershed may reduce the hydrologic and habitat connectivity of riparian reaches. Given the emphasis of the SAMP/WSAA Process on implementing a holistic approach to preserving the aquatic and riparian ecosystems, such potential fragmentation impacts would be addressed through the SAMP/WSAA Process program which will require proper design elements (e.g., large culverts to allow wildlife passage, or bioengineering solutions such as un-grouted rip-rap) or other avoidance or mitigation techniques. Through the SAMP/WSAA Process, and agency coordination between 2000 and 2006 by the SAMP Participating Applicants, many such reach- and watershed-scale direct and indirect impacts to the Watershed have been avoided and minimized. Under the SAMP/WSAA Process, future land development activities must comply with the terms and conditions associated with the SAMP/WSAA Process permitting and mitigation requirements. As a consequence, potential impacts to high and medium integrity riparian reaches would be avoided and impacts to wetland and riparian areas would be less than significant. Additionally, implementation of prioritized restoration plans (Corps 2004, 2006), as specified in the SAMP/WSAA Process Strategic Mitigation Plan and Mitigation Coordination Program, would serve to reconnect areas previously fragmented, and ensure the sustainability of these aquatic resources. Thus, the permitting and mitigation requirements of the SAMP/WSAA Process would reduce potential framgentation impacts from road/bridge construction to less than significant levels.

Requirements and Applicable General Conditions of the RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for roads involving bridges and culverts across jurisdictional waters.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for roads involving bridges and culverts.

Impact Analysis Conclusion

The permitting and mitigation requirements established by the SAMP/WSAA Process allow for increased protection of aquatic resource integrity areas, as well as a more efficient riparian ecosystem restoration program for the entire Watershed. Permit requirements are clear, and mitigation is set up to be efficient and successful. Acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area. In addition, General Conditions of the RGP, LOP, WSAA Process and other agency permitting programs (e.g., water quality) would help further reduce potential impacts. Therefore, implementation of the SAMP/WSAA Process for road projects involving bridges and culverts would not be expected to result in substantial adverse effects on any riparian habitat or other sensitive natural community identified or have a substantial adverse effect on federally protected wetlands. Potential impacts from the construction and maintenance of roads involving bridges and culverts would be considered less than significant.

Further, under the SAMP/WSAA Process, where aquatic resource impacts would be primarily focused in areas of low ecosystem integrity, the compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve habitat quality, including functions, in the Watershed in comparison to existing Corps and Department permitting programs.

Mitigation Measures

No mitigation measures are needed as no significant impacts to aquatic, wetland and riparian habitats are expected from roads involving bridges and culverts.

Level of Significance after Mitigation

No significant impacts.

Land Development for Residential, Commercial, Industrial, Institutional and Recreational Uses

Most remaining land development in the Watershed would consist of residential and commercial projects with some industrial institutional and recreational uses (local and regional parks including open space areas, trails, playing fields, golf courses, administrative buildings). Attendant features to most of these uses would include local roads, parking lots, driveways, garages, utilities and storm water management systems. Land development would typically require vegetation clearing, grading and excavation for construction access, building pads, roads and culverts; boring and trenching for utility, sewer and storm drain installation; and paving operations. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages, redirecting of surface runoff into underground storm drains, temporary stream diversion and dewatering operations.

Temporary Impacts

Temporary impacts to jurisdictional areas can occur during excavation of soil, placement of fill material, and construction of temporary access roads. Construction may also involve temporary stream diversion and dewatering. Land development activities within jurisdictional areas would likely have temporary impacts on aquatic, wetland, and riparian habitats from direct habitat disturbance and/or removal, or indirect impacts from erosion and sedimentation of adjacent or downstream reaches. Streams may be diverted, preventing natural flooding or saturation of soils.

Construction activities may increase the edge effects on adjacent wetland and riparian areas, thus creating the potential for invasive, exotic plant species to colonize project sites. Although these impacts are expected to be temporary in nature, a temporal loss of habitat functions is expected. As required by the general conditions and mitigation framework, restoration of these areas plus a requirement to mitigate for temporal losses would ensure the persistence and sustainability of the temporarily impacted sites.

For recreation-related activities, temporary impacts may include trail maintenance activities such as vegetation clearing, sediment removal, and soil stabilization. Some new recreational facilities such as the City of Irvine's proposed Great Park may be built within or adjacent to existing (or restored) riparian habitat in the Watershed. If any such recreation projects are proposed in the future, then the projects would proceed after demonstrating compliance with the SAMP/WSAA Process.

It is anticipated that recovery from temporary impacts at one particular site would be completed before impacts would occur in another location; thus, multiple temporary impacts at the same time are unlikely. These activities are usually completed in a relatively small area within a single riparian reach; thus, the overall impact on the Watershed is not expected to further degrade the hydrologic, water quality, or habitat functions of these habitats. The temporary nature of these impacts, coupled with the mitigation

required under the SAMP/WSAA Process, would avoid or mitigate any reduction in the acreage of aquatic, wetland, and riparian resources in the Watershed.

Indirect impacts may result in temporary impacts (if part of construction only) or may be more chronic in nature. Edge effects from adjacent activities after construction is completed may indirectly impact the integrity of wetland and riparian areas even if no direct impacts were made to jurisdictional areas. Invasive, non-native plants may enter wetland and riparian areas and substantially change the diversity and sustainability of these habitats. Domesticated animals and household pets may influence the composition and competitive abilities of riparian wildlife.

Permanent Impacts

Impacts from land development activities have the greatest potential for permanent impacts at the riparian reach and watershed scales. Yet, due to the fact that the Watershed is almost built-out, land development activities would be limited to the remaining developable areas. Thus, potential impacts would be expected on only a portion of the Watershed, rather than over the entire Watershed area. As discussed below, many permanent impacts will be addressed and mitigated through the SAMP/WSAA Process. Other types of permanent impacts, if they should occur, would likely not meet the requirements of the SAMP/WSAA Process, and thus be processed as a SIP; this analysis focuses on impacts likely to occur and be authorized through the SAMP/WSAA Process.

Land development activities may result in increased impervious (i.e., paved) surfaces. Increased storm water and dry weather urban runoff from these impervious surfaces may permanently alter jurisdictional drainages and wetlands through hydromodification, sedimentation, and nutrient inputs (indirect impacts). Modifying the hydrology may result in channel incision, which in turn may isolate floodplains by reducing the ability of flood flows to reach floodplain areas. Floodplain isolation has many ecological impacts such as recruitment limitation, establishment of upland vegetation, and reduced functional capacity. In these cases, flood flows often have high peak flows with highly variable disturbance regimes.

In other cases, urban runoff consists of permanent, low flows with reduced variability in disturbance regimes. Runoff may include high nutrient, herbicide, and pesticide loads from the irrigation of landscaping and household lawns. Such runoff may result in the expansion of disturbance- or nutrient-tolerant wetland plants such as *Typha* spp. (i.e., cattails). A monotypic stand of cattails, although providing some wildlife benefits, has less structural and compositional diversity of vegetation.

Land development projects have the potential to reduce the hydrologic and habitat connectivity of riparian reaches. Some of these fragmentation impacts may be addressed through proper project design elements (e.g., preservation of corridors and habitat linkages). Through the SAMP/WSAA Process, and agency coordination between 2000 and 2006 by the Participating Applicants, many such reach- and watershed-scale direct and indirect impacts to the Watershed have been avoided and minimized. Under the SAMP/WSAA Process, future land development activities must comply with the terms and conditions associated with the SAMP/WSAA Process permitting and mitigation requirements. As a consequence, potential impacts to high and medium integrity riparian reaches would be avoided and impacts to wetland and riparian areas would be less than significant. Additionally, implementation of prioritized restoration

plans (Corps 2004, 2006), as specified in the SAMP/WSAA Process Strategic Mitigation Plan and Mitigation Coordination Program, would serve to reconnect areas previously fragmented, and ensure the sustainability of these aquatic resources. Thus, the permitting and mitigation requirements of the SAMP/WSAA Process would reduce potential fragmentation impacts from land development activities to less than significant levels.

Requirements and Applicable Conditions of the RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for land development activities impacting jurisdictional waters.

Other Applicable Regulations

Water quality-related requirements (e.g., WDRs, Section 401 Certifications, BMPs, etc.), as discussed in the Section 4.5 Water Quality, would provide safeguards against degradation of wetland and riparian habitats. Many future activities in the Watershed would require additional CEQA analysis such as the preparation of an EIR; thus, additional, project-and site-specific mitigation measures may be implemented at that time to further reduce temporary and permanent impacts to wetland and riparian habitats. Many such measures provide protections for various sensitive plant and wildlife species that occur within aquatic, wetland, and riparian habitats.

Impact Analysis Conclusion

Impacts to aquatic, wetland, and riparian habitats from land development activities would be mitigated through application of the SAMP/WSAA Process mitigation framework and general conditions of the RGP, LOP, and WSAA Process. Proposed temporary and permanent impacts would be mitigated through: (a) avoidance of moderate and high quality riparian areas (through the SAMP/WSAA Process), (b) conformance to the General Conditions of the SAMP/WSAA Process, including minimization measures, and (c) strategic compensatory mitigation. Recreation projects, for example, are expected to include maintenance of the acreage of vegetated riparian habitat and wetlands and riparian ecosystem functions over the entire land development area.

The permitting and mitigation requirements established by the SAMP/WSAA Process promote increased protection of aquatic resource integrity areas, as well as a more efficient riparian ecosystem restoration program for the entire Watershed. Permit requirements are clear, and mitigation is set up to be efficient and successful. In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area. The Corps and Department retain discretionary authority to augment the mitigation framework.

In the case of land development activities, the following serve as examples of conditions that may be added, on a case-by-case basis, to the permit/agreement conditions and mitigation requirements:

- Buffers shall be required for the compensatory mitigation site, including long-term preservation areas. This component of an authorization from the Corps or Department may be necessary to ensure the long-term sustainability of adjacent or downstream riparian areas. Within the legal bounds of the Corps and Department's authorities, buffers shall be required wherever feasible. Specific dimensions of buffers will be decided on a case-by-case basis, based upon the scientific

literature to achieve the specific goal(s) of the project such as wildlife movement or water quality protection.

- The compensatory mitigation site shall include an exotic, invasive species management component to protect native riparian habitat against direct and indirect, short- and long-term impacts from invasive species. This condition is a component of the conservation element provides a focus on protecting and restoring native riparian habitat. Such a focus may be necessary to ensure the long-term sustainability of areas within or outside the aquatic resource integrity areas, as well as native vegetation experiencing competition from non-native plants.
- Compensatory mitigation shall be designed and maintained to avoid impacts to wildlife movement corridors. This component, especially important to the Department, may be added to the conditions and mitigation measures to ensure the persistence of, and possible enhancement of, existing wildlife movement corridors.

Therefore, implementation of the SAMP/WSAA Process for land development projects would not be expected to result in substantial adverse effects on any riparian habitat or other sensitive natural community, nor have a substantial adverse effect on federally or state-protected wetlands. Overall, impacts to aquatic resources would be less than significant.

Mitigation Measures

No CEQA mitigation measures are required because impacts are expected to be less than significant.

Level of Significance After Mitigation

No significant impacts.

Storm Water Treatment and Management Facilities

Stormwater treatment and management facilities, such as constructed treatment wetlands and water quality treatment basins, capture urban runoff and storm water flows for treatment and subsequent return to surface water or infiltration of groundwater. As under existing Corps/Department permitting programs, construction and maintenance activities of such facilities within jurisdictional boundaries and in upland areas permitted under the SAMP/WSAA Process could include grading, trenching, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, channel desilting, and vegetation and sediment management removal.

Temporary Impacts

Temporary impacts to jurisdictional areas can occur during construction of the facilities from required excavation of soil, placement of fill material, and construction of temporary access roads. Construction may also involve temporary stream diversion and dewatering. Maintenance would involve dredging of accumulated sediment and potentially contaminated soil in water quality treatment basins and constructed treatment wetlands. Also, vegetation removal and vector control within wetland and riparian habitats that are part of in-stream constructed wetlands may be required on a periodic basis.

Potential impacts to aquatic resources from maintenance activities would be periodic and temporary, and may include: (a) possible type changes of wetland flora (i.e., the change from one wetland type [diverse and natural] to another [monotypic and disturbed]); (b) an increase in a monotypic wetland (i.e., cattails)

across the Watershed; and (c) accumulation of pollutants in wetland plants. These impacts are expected to be minor, and due to the resiliency of many freshwater marsh and riparian areas to disturbance regimes, the habitats are expected to persist and remain functioning.

Temporary impacts from storm water management activities are expected to occur in various locations throughout the Watershed. It is anticipated that recovery from temporary impacts at one particular site would be completed before impacts would occur in another location; thus, multiple temporary impacts at the same time would be unlikely. These activities may occur on a small scale within a single riparian reach, or may involve the reestablishment of entire riparian corridors.

Permanent Impacts

Potential adverse impacts associated with storm water treatment and management facilities in jurisdictional riparian and wetland resources in the Watershed may include hydrologic alternations. As stated in Section 4.4, Hydrology, Erosion, and Sedimentation, it is not anticipated that these facilities would appreciably alter the quantity of water flowing in San Diego Creek. Some anticipated facilities could affect stream flow (i.e., waters of the U.S. and wetland hydrology) as a result of (a) diversions to off-line facilities, (b) increased evaporation (or evapotranspiration [ET], if transpiration from plants is included), and (c) increased infiltration and percolation. Where diversions from stream channels are proposed, there would be a section of the stream between the point of diversion and the point of return flow that would experience a reduction in flow.

These diversions and ET losses are expected to have minimal impacts to existing riparian and wetland resources in the Watershed for several reasons: (a) the Watershed has numerous development-derived sources of flows that have perennialized certain reaches- the diversions may act to balance an overabundance of runoff; (b) many of the in-stream facilities slow flows, but do not divert flows; and (c) the natural occurring riparian areas are adapted to an intermittent, and periodically absent, flow regime. Many of the freshwater marsh or riparian herb areas (that contain wetland plant species) are sustained by urban runoff, and would not otherwise exist in certain areas of the Watershed. In some cases, if water tables were allowed to rise within reach of vegetation (due to a reduction in groundwater withdrawals or increased percolation), some of these wetland may be self-sustaining even without urban runoff. Also, infiltration loss to the groundwater may reduce flow in mainstem creeks (e.g., San Diego Creek), but because creek flows are often inter-connected with the groundwater tables, this is expected to have only negligible impacts on flow.

Since the primary purpose of these facilities includes the treatment of runoff, they are expected to have beneficial effects on receiving water quality. On the other hand, potential impacts to aquatic resources may include the accumulation of pollutants and nutrients (in particular phosphorus) in treatment wetland (or basin) sediments. For the in-line facilities, no new sources of flow (or contaminants) are expected through these areas. The water quality functions provided by these habitats would continue. Minimal impacts to aquatic resources are expected from pollutant and nutrient addition because sediment testing and removal (if necessary) is a management measure often associated with these activities.

Permanent impacts to aquatic resources may occur from fill required for permanent structural features, as well as dredging required for construction of any new water quality treatment basins. Direct impacts from these activities are expected to be minimal as most of the sites are located in upland areas (non-

jurisdictional) or degraded (i.e., low integrity) drainages, and are anticipated to result in an increase in potential habitat and some wetland functions throughout the Watershed. Another potential benefit of these facilities, particularly constructed treatment wetlands, is providing increased aquatic habitat support available for wildlife. On a Watershed basis, the extent of wetlands (especially freshwater marsh) is expected to increase as a result of wetland creation activities in upland areas, depending on their design as well as maintenance regime.

A reduction in wetland/riparian acreage may occur if an increase in open water areas (e.g., ponds) causes the permanent loss (via replacement) of degraded marshes, for example. This situation, referred to as wetland type change, would result in habitat replacement, and the functions performed by a flow-through pond (although good for water quality) may be different from an existing wetland or riparian area. For in-stream facilities, the potential for type-change may be a negative impact from a Watershed perspective. These in-line facilities, though, would be monitored, and case-specific management actions may be implemented to mitigate this potential problem. As with the wetland sediments, plant tissue monitoring may provide baseline information, as well as information to assess potential adverse impacts to wildlife.

Given the SAMP mitigation framework and applicable general conditions of the RGP, LOP, and WSAA Process, additional mitigation (per Section 404) may be unnecessary because the facilities are built in uplands (i.e., non-wetland or non-riparian areas) or would include only temporary impacts within existing aquatic resources. Where impacts are expected, most would be of a temporary nature, and habitat would be allowed to re-establish. Alternatively, if there are minor permanent impacts, these impacts would be mitigated on-site within the facility itself. Given that under the SAMP/WSAA Process site specific conditions of approval would be imposed at each project site, and that new habitat would be created in upland areas, the total wetland extent (acreage) and functions within the Watershed could increase, incidentally.

Through the WSAA Process pre-application consultation, the mitigation framework, and the agreement conditions, the Department would strive to ensure that treatment facilities permitted through this process would benefit wildlife to the extent feasible. If a component of a proposed project would not benefit wildlife, then the applicant would need to provide adequate mitigation per the WSAA Process conditions to compensate for any loss of wildlife habitat.

Requirements and Applicable General Conditions of the RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for storm water management and treatment facilities affecting jurisdictional areas.

Other Applicable Regulations

Water quality-related requirements (e.g., WDRs, Section 401 Certifications, BMPs, etc.), as discussed in the Section 4.5, Water Quality, would provide safeguards against degradation of wetland and riparian habitats. Future activities in the Watershed may require additional CEQA analysis such as the preparation of an EIR. Thus, additional, project-specific mitigation measures related to potential wetland and riparian habitat impacts may be imposed by the local agency at the time these projects receive local approval. For example, the Revised Draft EIR on the IRWD's Natural Treatment System Project (BonTerra Consulting, 2004) discusses anticipated storm water treatment activities in the Watershed and includes numerous mitigation measures for future individual projects.

Impact Analysis Conclusion

Regardless of the scale of a particular water quality treatment or storm water management activity, no further degradation to the hydrologic, water quality, or habitat functions of these habitats would be expected in the Watershed overall. The temporary nature of these impacts would not reduce the acreage of aquatic, wetland, and riparian resources in the Watershed. In addition, the net impacts from some anticipated storm water management and treatment facilities could have a beneficial impact on aquatic, wetland, and riparian resources through greater hydrologic retention times, increased habitat support, and reduction of flood scouring and channel incision.

The permitting and mitigation requirements established by the SAMP/WSAA Process allow for increased protection of aquatic resource integrity areas, as well as a more efficient riparian ecosystem restoration program for the entire Watershed. General conditions and permit requirements of the RGP, LOP WSAA Process are clear, and mitigation is set up to be efficient and successful. In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area. Therefore, implementation of the SAMP/WSAA Process for storm water management and treatment facilities would not be expected to result in substantial adverse effects on any riparian habitat or other sensitive natural community, or have a substantial adverse effect on federally protected wetlands. No significant impacts are anticipated because any activities authorized under the new SAMP/WSAA Process would be subject to conditions of the RGP, LOP, and WSAA Process and other agency permitting programs (e.g., water quality). Potential impacts from storm water management and treatment facilities would be considered less than significant.

Mitigation Measures

No CEQA mitigation measures are required because impacts are expected to be less than significant. To ensure this determination, additional permit/agreement conditions may be included during permit processing of future storm water treatment projects to address unique, site-specific issues. The Corps and Department retain discretionary authority to augment the mitigation framework. In the case of storm water treatment and management facilities, the conditions listed in the land development section may also be utilized in this context. Those additional conditions may be added to any permit/agreement conditions or mitigation framework on a case-by-case basis.

Level of Significance after Mitigation

No significant impacts.

Habitat Restoration and Enhancement Projects. Habitat restoration and enhancement projects are typically located in jurisdictional areas to fulfill their functions in restoring and/or improving wetland/riparian habitat to increase wildlife habitat and hydrologic functions and values. While there may be some minor temporary impacts during construction, as discussed below, these restoration and enhancement projects would produce a beneficial effect for the aquatic ecosystem in the long-term by re-establishing native habitats. During the permit review process, the Corps would evaluate proposed habitat restoration and enhancement projects in light of their ability to meet restoration criteria of the SAMP Strategic Mitigation Plan described in Section 2.1.3.1.

Temporary Impacts

Anticipated impacts from habitat restoration and enhancement activities would occur from mass grading and channel reconfiguration as well as from minor enhancement of vegetation. During construction of restoration projects, temporary sedimentation impacts to aquatic, wetland, and riparian habitats may occur due to potential clearing and grading activities. Additionally, during construction, temporary impacts to jurisdictional drainages may occur from clearing and grading activities, installation of check-dam features, stream dewatering, and planting of riparian vegetation. These changes, albeit for the goal of increasing one or more functions, modify the existing channel. It is expected that habitat restoration and enhancement projects would allow for the natural re-establishment of riparian habitat and wetlands along the stream channels, and allow for a balanced system in terms of sediment regime and hydrology. Although temporal loss of some structural or functional elements at a particular site is anticipated, the low-quality habitat being disrupted may consist of upland vegetation, non-native plants, or be non-vegetated. Thus, the temporary loss of a few minor functions of degraded habitat would be compensated by the establishment of several major functions of restored habitat.

Temporary impacts from restoration activities are expected to occur in various locations throughout the Watershed. It is anticipated that recovery (from temporary impacts) at one particular site would be completed before impacts would occur in another location; thus, multiple temporary impacts at the same time are unlikely. These activities may occur on a small scale within a single riparian reach, or may involve the reestablishment of entire riparian corridors.

Permanent Impacts

As under existing Corps/Department permitting programs, construction and maintenance of habitat restoration and enhancement projects may include grading for creating stream meanders, vegetation management and removal, sediment removal, temporary stream diversion, dewatering operations, and the installation of temporary access roads and work areas. Although some of these impacts may be considered permanent, the post-activity, impacted areas would remain as habitat, rather than dredged or fill material. Thus, permanent impacts are not anticipated, except for in-channel or bank structural elements that serve as stabilizing features of restoration projects. In some cases, channel reconfiguration may include permanent impacts in one section of a reach (or a given project site), but more habitat would be made available elsewhere in the reach. In summary, no reduction in acreage or functions is anticipated; in fact, an increase in riparian habitat acreage and function is expected, a beneficial effect for the Watershed riparian ecosystem.

Requirements and Applicable General Conditions of the RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement activities.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement activities.

Impact Analysis Conclusion

Regardless of the scale of a particular restoration activity, no further degradation to the hydrologic, water quality, or habitat functions of these habitats would be expected in the Watershed overall. The temporary nature of these impacts would not reduce the acreage of aquatic, wetland, and riparian resources in the

Watershed. In addition, the net effect of the anticipated restoration activities, especially at priority sites with the highest functional lift per effort (Corps 2004), would be a beneficial impact on aquatic, wetland and riparian resources Watershed-wide.

The permitting and mitigation requirements established by the SAMP/WSAA Process allow for increased protection of aquatic resource integrity areas, as well as a more efficient riparian ecosystem restoration program for the entire Watershed. General conditions and permit requirements of the RGP, LOP, and WSAA Process are clear, and mitigation is set up to be efficient and successful. In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area. Therefore, implementation of the SAMP/WSAA Process for habitat restoration and enhancement projects would not be expected to result in substantial adverse effects on any riparian habitat or other sensitive natural community; or have a substantial adverse effect on federally protected wetlands. No significant impacts are anticipated because any activities authorized under the new SAMP/WSAA Process would be subject to conditions of the RGP, LOP, and WSAA Process and other agency permitting programs (e.g., water quality). Potential impacts from habitat restoration and enhancement activities would be considered less than significant.

Mitigation Measures

No additional mitigation measures are needed for habitat restoration and enhancement activities because no significant impacts to wetland and riparian habitats are expected.

Level of Significance After Mitigation

No significant impacts.

Fire Abatement and Vegetative Fuel Management Activities

Fire abatement and vegetative fuel management activities that could be permitted under the SAMP/WSAA Process may involve thinning of vegetation, clearing of brush, and installing construction access roads and work areas. This work may occur within or adjacent to waters that are under the jurisdiction of the Corps and the Department.

Temporary Impacts

Management of vegetation for the purposes of fire abatement usually involves upland plant communities composed of coastal sage scrub or chaparral. Where ephemeral drainages are interspersed within such communities, or where a riparian zone is adjacent to such habitat, vegetation management activities may temporarily impact wetland and riparian habitat. This activity may include vegetation removal, thinning of vegetation, as well as temporary access roads and staging areas. Although these activities are ongoing and may occur on a regular basis, the aggregate impact does not constitute a permanent loss of habitat or functions. As riparian vegetation would only be indirectly affected (because it is not upland vegetation), maintenance for fire protection would result in only minor impacts to small areas on an intermittent basis.

The temporary impacts to wetland and riparian habitats from fire abatement activities would occur on an infrequent basis, and in various locations throughout the Watershed. It is anticipated that recovery (from temporary impacts) at one particular site would be completed before impacts would occur in another

location; thus, multiple temporary impacts at the same time are unlikely. These activities are usually completed in a relatively small area within a single riparian reach. Drainages within or adjacent to coastal sage scrub or other upland habitats are usually ephemeral in nature, and in turn do not support significant riparian corridors. The biogeochemical functions of low-order, ephemeral tributaries would not be compromised by vegetation removal, as long as the drainages remain intact.

In many cases, as the Corps does not regulate removal of vegetation with hand tools, fire abatement activities may not be considered a Corps-jurisdictional activity. Thus, the activity would then be solely under the jurisdiction of the Department, and only WSAA Process conditions would apply.

Permanent Impacts

No permanent impacts were identified.

Requirements and Applicable General Conditions

The discussion under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities within and adjacent to jurisdictional areas, although in many cases, only the WSAA Process conditions would be applicable.

Other Applicable Regulations

In general, the discussion under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities within and adjacent to jurisdictional areas. In addition, the requirements of the applicable NCCP (for upland-associated species) would further condition activities to ensure compliance of activities with the NCCP (County of Orange, 1996).

Impact Analysis Conclusion

The overall impact on the Watershed is not expected to further degrade the hydrologic, water quality, or habitat functions of these habitats. The temporary nature of these impacts would not reduce the acreage of aquatic, wetland, and riparian resources in the Watershed.

With application of the above permit/agreement conditions, implementation of the SAMP/WSAA Process for fire abatement activities would not be expected to cause substantial, adverse impacts to riparian areas or federally protected wetlands. No significant impacts are anticipated because any activities authorized under the new SAMP/WSAA Process would be subject to conditions of the RGP, LOP, and WSAA Process and other agency permitting programs (e.g., water quality). In addition, acreage thresholds for both the RGP and LOP further restrict impacts: RGP, less than or equal to 0.5 acre outside of aquatic resource integrity areas; and LOP, less than or equal to 0.1 acre within any aquatic resource integrity area. Potential impacts from the construction and maintenance of utility lines would be considered less than significant.

Mitigation Measures

No additional mitigation measures are needed for fire abatement and vegetative fuel management activities because no significant impacts to wetland and riparian habitats are expected.

Level of Significance After Mitigation

No significant impacts.

4.3 BIOLOGICAL RESOURCES INCLUDING THREATENED AND ENDANGERED SPECIES

This programmatic impact evaluation satisfies the Federal requirement under the Endangered Species Act (FESA) and the State requirement under the California Endangered Species Act (CESA) for incidental take of endangered plant and animal species. Furthermore, this evaluation assesses any substantial interference with migratory and wildlife movement resulting from the proposed SAMP/WSAA Process. Potential impacts to sensitive species (i.e., species listed, or proposed for listing, under either the FESA and/or the CESA), and their movement corridors are assessed for both upland and aquatic habitats. Upland sensitive species include the coastal California gnatcatcher and Braunton's milk-vetch and sensitive aquatic species include the least Bell's vireo and southwestern willow flycatcher, and Riverside fairy shrimp.

4.3.1 Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. The following standards of significance are based on Appendix G of the CEQA Guidelines. For the purpose of this analysis, an impact is considered significant if the proposed SAMP/WSAA Process would:

- Have a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Department or USFWS; or
- Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites.

Topics listed in Appendix G overlap with those found within the 404(b)(1) Guidelines. Table 4-2 below shows the overlap.

Table 4-2. Comparison of Corps 404(b)(1) Guidelines and CEQA Appendix G

Topics	404(b)(1) Guidelines	Appendix G^
Biological Resources	230.10 (b 3-4; c 2-3) Subpart D	IV (a, d-f); XVII (a)

^ *Roman numerals relate to the text of Appendix G.*

4.3.2 Impacts

Consistency of SAMP/WSAA Process with Existing Sensitive Species Policies and Regulations

Implementation of the SAMP/WSAA Process permit program (e.g., Corps RGP, LOP and the Department's WSAA Process) would have little or no effect on how existing endangered species regulations and policies would apply to regulated activities of the SAMP/WSAA Process. The Corps and the Department have been in informal consultation with the USFWS throughout the formulation of the SAMP/WSAA Process to insure that any impacts to listed species (or their critical habitat) are not adverse. With respect to obligations under FESA, mitigation and minimization in the Corps LOP and RGP shall constitute reasonable and prudent measures for all non-jeopardy Section 7 consultations, except as provided by any Biological Opinion. Nevertheless, the Corps may undergo a separate Section 7

consultation with the USFWS as part of the SAMP permitting process should they choose to do so. Similarly, project proponents would have to comply with any of the Department's requirements for CESA. Overall, the SAMP/WSAA Process would neither conflict nor be inconsistent with existing federal and state endangered species regulations and policies.

Programmatic Impact Analysis of Regulated Activities

The following programmatic impact analysis outlines potential impacts to federally and state listed species and their habitat from the seven categories of regulated activities under the proposed SAMP/WSAA Process. The regulated activities that would be permitted under the SAMP/WSAA Process are similar to those that would otherwise be permitted on case-by-case basis under existing Corps/Department Section 404 and Section 1600 *et seq*. programs. As such, potential impacts from these regulated activities would be expected to be similar in nature to those authorized under the existing regulatory programs. However, the SAMP/WSAA Process was established based on a holistic, Watershed-wide evaluation of aquatic resources from which permit conditions, compensatory mitigation, and targeted restoration requirements were developed to help maintain and improve the ecosystem function over the entire Watershed. Comparatively, the current permitting process is conducted on a case-by-case project basis with no holistic plan for compensatory mitigation. Therefore, potential impacts of regulated activities under the SAMP/WSAA Process would be expected to be similar or even less detrimental to the Watershed overall, in comparison to existing permitting programs because compensatory mitigation would be targeted to areas providing the greatest functional benefit to the Watersheds ecosystem, including listed species and their habitat. The compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve and enlarge key habitat areas identified within the Watershed that would be most beneficial to sensitive species.

Under the SAMP/WSAA Process, seven regulated activities would be expected to occur within the Watershed. In general, the anticipated activities under the proposed SAMP/WSAA Process include the construction of roads and bridges, conversion of land to residential, commercial, office/industrial, and recreational uses; construction and maintenance of utilities and flood control facilities, and other uses. In general, these activities would result in temporary and permanent impacts to the upland and aquatic habitats upon which sensitive species rely on for food and reproduction. In this Watershed sensitive upland species include the coastal California gnatcatcher and Braunton's milk-vetch, and sensitive aquatic species include the least Bell's vireo, southwestern willow flycatcher, and Riverside fairy shrimp.

Utility Lines (Construction and Maintenance)

As with existing Corps/Department permitting programs, construction and maintenance of utility lines that would be permitted under the SAMP/WSAA Process could affect streambeds and/or result in discharges of dredged or fill material into jurisdictional waters, including habitat occupied by sensitive species. In addition to impacts to jurisdictional waters, utility lines could impact adjacent upland areas that may also support sensitive species and/or habitat upon which sensitive species rely. The discharges may result from required grading, excavation, boring, backfill, and or bedding, temporary stream diversion, dewatering operations, temporary construction access roads and work areas.

Temporary Impacts

Temporary impacts to federally and state-listed species and their upland and riparian habitats can occur from the installation and maintenance of utility lines. Temporary, impacts to species and their upland and

riparian habitats may result from required grading, stockpiling, trenching, temporary stream diversion, dewatering operations, temporary construction access roads, and work areas.

Construction activities could temporarily displace sensitive wildlife. Human activity would cause most sensitive wildlife species to avoid an area until the disturbance conditions are eliminated. Bird populations and other mobile species would retreat from an area until after construction is complete and reoccupy the area following revegetation.

During temporary ground disturbing activities, less mobile wildlife species (e.g., Riverside fairy shrimp) and plant life (e.g., Braunton's milk-vetch) would be eliminated if located within the project footprint. Impacts to wildlife species are expected to be of limited duration.

Some construction and maintenance of existing utility structures would be expected to result in a short-term loss of habitat. Some breeding potential could be lost for animals that may currently breed or nest within the construction footprint. This loss of productivity would be of limited duration and breeding individuals would be expected to reoccupy adjacent habitats following completion of construction activities and vegetation recovery. Early recovery of some wildlife populations would likely occur within two to three years after temporary ground disturbance.

Temporal loss of habitat from construction of trenches may occur if across intermittent or perennial streams with riparian habitat, or across ephemeral streams within or adjacent to coastal sage scrub. These areas would remain unvegetated until after project completion. These temporary construction areas may serve to temporarily disconnect habitat corridors used by listed species.

Noise generated during construction and maintenance of utility lines can have an indirect impact on listed wildlife species during the temporary work period. Noise can cause sensitive wildlife species to avoid an area until the disturbance conditions are eliminated. Bird populations and other mobile species would retreat from an area until after construction was complete. In addition, noise can cause potential disruption of breeding activities including nest abandonment for one or more seasons. Sensitive species that may be adversely affected by noise include the coastal California gnatcatcher, least Bell's vireo, and southwestern willow flycatcher.

In addition, downstream effects (indirect impacts) may result from a potential discharge of construction-related pollutants (e.g., concrete, waste oil, solvents, debris, etc) spilled, leaked or transported via storm runoff into Receiving Waters that may be inhabited or used by listed sensitive species, such as the least Bell's vireo, southwestern willow flycatcher, California least tern, and Belding's savannah sparrow.

Permanent Impacts

The vast majority of new utility projects would service new developments; therefore, most impacts associated with these facilities would be evaluated in the land development category. In general, once habitat supporting sensitive species is permanently converted to an above ground facility or utility line the area would no longer be expected to provide habitat value for sensitive species. Long-term impacts could occur in woodlands, riparian, wetland and sage scrub where vegetation would be cleared. Vegetation removed in these areas would require a relatively longer period for reestablishment. The loss of vegetation could affect wildlife species by reducing available refuge areas, foraging habitat, and

nesting/roosting areas for species such as the least Bell's vireo, southwestern willow flycatcher, and California least tern.

The relatively few new above-ground utilities expected to be constructed using the SAMP RGP, LOP, or WSAA Process may permanently alter habitat (e.g., willow woodland and coastal sage scrub) used by sensitive species for foraging, breeding, and/or migration corridors.

Construction of new utility projects may include downstream hydromodification and the influx of exotic plant species. These indirect impacts could, over time, reduce the sustainability of riparian areas and in turn affect the long-term habitat use by listed species.

Applicable General Conditions of RGP, LOP, and WSAA Process that Minimize Impacts

Utility projects would be subject to either the Corps RGP or LOP and the Department's WSAA Process. (For those projects that cannot meet the requirements of the RGP, LOP or WSAA Process, project applicants would need to file for a Corps SIP and Department individual streambed alteration agreement).

The Corps proposed Maintenance RGP authorizes discharges of dredged or fill materials, outside aquatic resource integrity areas, resulting in temporary impacts up to 0.5 acre of which only 0.1 acre may be vegetated with native riparian and/or wetland vegetation. This RGP contains several general conditions that address potential impacts to biological resources including threatened and endangered species. The conditions relating to water quality are applicable because hydromodification may alter flooding regimes, which may in turn alter the structure of riparian habitat suitable for the least Bell's vireo and southwestern willow flycatcher. The key conditions are Nos. 13 and 19, as these relate most directly to minimizing any impacts to these species. These conditions are listed below and detailed in Table 2-4 of Section 2.1.2.3.

- Condition No. 5 Soil Erosion and Siltation
- Condition No. 6 Equipment
- Condition No. 11 Staging of Equipment
- Condition No. 12 Fencing of Project Limits
- Condition No. 13 Avoidance of Breeding Season
- Condition No. 19 Endangered Species

The Corps would issue an LOP for temporary impacts within aquatic resource integrity areas only for: (1) the purpose of maintaining established structures (and permanent impacts up to 0.1 acre); (2) would not result in stream channelization/storm drain conversion for five major stream systems in aquatic resource integrity areas including Borrego Canyon, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek and Serrano Creek; (3) would only apply to projects with a small overall footprint; and (4) would not substantially alter a compensatory mitigation site. LOP conditions that address potential impacts to biological resources including threatened and endangered species are similar to those of the Maintenance RGP and include the following (see Table 2-3 of Section 2.1.2.3 for details):

- Condition No. 1 Avoidance and Minimization
- Condition No. 4 Soil Erosion and Siltation
- Condition No. 5 Equipment
- Condition No. 6 Suitable Material
- Condition No. 7 Management of Water Flows

- Condition No. 9 Preventive Measures
- Condition No. 10 Staging of Equipment
- Condition No. 11 Fencing of Project Limits
- Condition No. 12 Avoidance of Breeding Season
- Condition No. 13 Exotic Species Management
- Condition No. 19 Endangered Species

The Corps would issue LOPs for impacts to waters of the U.S. outside of aquatic resource integrity areas for applicants who can demonstrate impact avoidance and minimization was achieved to the extent practicable and resulting changes in low integrity areas would only have a minor effect on Watershed integrity. LOP procedures apply to those projects that do not qualify for the RGP. As part of the LOP process, a mitigation plan must be prepared in accordance with the compensatory mitigation requirements of the LOP that effectively addresses unavoidable impacts to waters of the U.S. and the goal of no net loss of wetlands and functional integrity units.

The Department's WSAA Process also contains compensatory mitigation requirements and numerous conditions that would further help avoid, minimize and mitigate any significant or potentially significant impacts to sensitive species and wildlife movement. Applicable conditions contained in the SAA Templates Master Conditions List (of the WSAA Process) are as follows: (see Appendix D for full descriptions of the conditions).

- Condition No. 1 (Mitigation Requirements);
- Condition No. 2 (General Habitat Mitigation and Monitoring)
- Condition No. 3 (General Mitigation Success Criteria);
- Condition No. 7 (Grading for Mitigation Sites);
- Condition Nos. 8 - 20 (Biological Surveys and Time Restrictions);
- Condition Nos. 21 - 22 (Aquatic and Terrestrial Species Specific Protection Conditions)
- Condition No. 23 (Predator Control);
- Condition Nos. 24 - 34 (Vegetation Removal);
- Condition No. 43 (Exotic Vegetation Eradication Control – Wildlife and Habitat Protection);
- Condition Nos. 46 - 64 (Placement of Instream Structures - Aquatic and Wildlife Migration Protection);
- Condition Nos. 88 - 95 (Turbidity and Siltation);
- Condition Nos. 131 – 140 (Additional Mitigation Conditions);
- Condition Nos. 142 – 154 (Additional Resource Protection; and
- Condition Nos. 156 - 162 (Fisheries Species Protection)

Applicable Mitigation Program Elements

The SAMP mitigation framework and requirements/recommendations for long-term conservation of aquatic resource integrity offer additional measures that would ensure less than significant impacts to listed species and their habitats. The Corps and Department reserve the right to further condition projects based on site-specific information, as well as reasonable and prudent measures developed by the USFWS during agency coordination (or consultation). In particular, additional measures may be applicable in

situations where long-term, indirect impacts may degrade the sustainability of habitat. Recommendations may be made to avoid and minimize impacts to non-listed, sensitive plant and animal species.

If a proposed project with significant, adverse impacts to listed species cannot be mitigated to a less than significant level, then the Corps and the Department may require the applicant to proceed under a SIP or individual SAA. In that case, additional NEPA and CEQA documentation would be required, and a formal Section 7 consultation may occur. Many applicable mitigation elements of the SAMP/WSAA Process, relevant to riparian-associated species such as the least Bell's vireo, are discussed in Section 4.2 Aquatic, Wetland, and Riparian Habitats.

The Corps restoration plan for the Watershed (Smith and Klimas 2003) contains a set of criteria (i.e., strategies which relate directly to the protection and restoration of riparian and adjacent upland areas). The criteria, which are consistent with the SAMP Tenets, were developed by the agencies to identify strategic restoration sites for potential implementation as compensatory mitigation sites. These sites were chosen because they would result in the greatest functional improvement per level of effort. The following six criteria provided a mechanism for prioritizing the potential effectiveness of various combinations of restoration actions at improving the functional integrity of the aquatic resources:

- Restore connectivity between aquatic resources located in the NCCP Reserve System;
- Restore reaches within surrounding upland conservation areas;
- Restore connectivity between high and/or medium integrity resource reaches;
- Restore reaches within the headwaters;
- Restore reaches with federally or state-listed species (endangered, threatened, or species of special concern); and
- Prioritize restoration of reaches with greatest amount of functional lift per level of effort.

These restoration "prescriptions" for the Watershed are expected to benefit not only riparian areas, but also associated upland habitats and wildlife habitats. Riparian areas that contain listed species are priority sites, and restoring these areas would directly improve the habitat for listed species. The increased connectivity would re-establish wildlife movement corridors, especially between the northern and southern portions of the Watershed.

The SAMP's long-term conservation elements include a suite of policies and measures for aquatic resource management. Among these are an adaptive management framework and the requirement/recommendation for buffers. These measures also serve to coordinate the SAMP/WSAA Process with the existing NCCP reserve system. The two plans, one focused on upland species (NCCP) and one focused on riparian resources (SAMP/WSAA Process), are complementary approaches to protecting and enhancing habitats used by listed species.

Buffers are important aspects of any mitigation for a project, yet buffers are especially important for ensuring the sustainability of wildlife habitats from exotic species, edge effects, and other short- and long-term impacts. Buffers include upland areas that serve as a barrier to these impacts, and the use of buffers as a component of mitigation may ensure that impacts to listed species are less than significant.

Other Applicable Federal and State Regulations that Minimize Impacts

Regulated activities under the proposed SAMP/WSAA Process (as under existing case-by case permitting) are also subject to the following state and federal policies and regulations, as applicable, to address potential impacts to sensitive species and their habitats located within aquatic and upland areas of the Watershed.

Natural Community Conservation Plan (NCCP)/Habitat Conservation Plan (HCP): As described previously in this document, the Central and Coastal Orange County NCCP/HCP provides for the regional protection and perpetuation of natural wildlife diversity while allowing compatible land use and appropriate development growth. The law provides an alternative to "single species" conservation through the formulation of regional, natural community-based, and habitat protection programs. The NCCP/HCP was developed to provide adequate mitigation for impacts to the California gnatcatcher and other Identified Species' habitat. The Department and USFWS developed the NCCP/HCP that provides coverage under Section 10 of FESA and CESA to those who are signatory to the NCCP/HCP. The NCCP Central and Coastal sub-region extends within the Watershed. As under the existing Corps/Department permitting, qualifying applicants within the Watershed seeking coverage under the SAMP/WSAA Process can continue to utilize the NCCP/HCP process for authorizing the take of a listed species, including the federally listed coastal California gnatcatcher.

Sections 7 and 10 of the FESA: As described previously in this document, the FESA prohibits activity that adversely affects any federally threatened or endangered species or species proposed for such listing or their designated critical habitats. The FESA also establishes a process for consultation and evaluation by the USFWS of proposed federal projects. Through the consultation process and specific provisions for habitat preservation, the FESA provides federal protection for species and habitat diversity, especially in cases where habitat loss has caused species endangerment. Sections 7 and 10 of the FESA would continue to be utilized as needed for the purpose of authorizing take of a listed species. With respect to obligations under FESA, mitigation and minimization in the Corps LOP and RGP shall constitute reasonable and prudent measures for all non-jeopardy Section 7 consultations, except as provided by any Biological Opinion. Nevertheless, the Corps may undergo a separate Section 7 or 10 consultation with the USFWS as part of the SAMP permitting process should they choose to do so. Four federally listed species are found or are potentially present in the Watershed: the coastal California gnatcatcher, the least Bell's vireo, southwestern willow flycatcher, and the Riverside fairy shrimp. Of the four species, only the California gnatcatcher has critical habitat designations that are in effect over portions of the Watershed. The Riverside fairy shrimp and the southwestern willow flycatcher had critical habitat designations in effect over portions of the Watershed until vacated by court order. Recovery plans have been prepared for the southwestern willow flycatcher, least Bell's vireo, and Riverside fairy shrimp (the Riverside fairy shrimp is covered by the Recovery Plan for Southern California Vernal Pools.

California Endangered Species Act (CESA): As described previously in this document, the CESA establishes a state policy to conserve, protect, restore, and enhance threatened and endangered species and their habitats designated by the State of California. The CESA authorizes the acquisition of habitat to conserve threatened and endangered species. CESA also protects listed fish, wildlife, and plant species from unauthorized taking, importing, exporting, or selling. An exemption, however, greatly reduces the protection of plants on private land. CESA also establishes a consultation process between state agencies

and the Department. Project proponents would have to comply with any of the Department's requirements for CESA.

If the Department determines that a project would jeopardize a designated species or adversely modify its essential habitat, the Lead Agency must implement Department's alternatives to avoid jeopardy. CESA includes exceptions to the alternatives requirement and applies only to state-approved projects. Private projects do not require consultation under the Act. However, taking is still prohibited without a permit pursuant to Section 2081 of the FGC.

Impact Analysis Conclusion

Given the aquatic resource impact restrictions and general conditions in the RGP, LOP, and WSAA Process, as well as the requirements of the NCCP, FESA and CESA, construction and maintenance of utility lines would not be expected to create a substantial adverse effect, either directly or through habitat modifications, on any species identified as a candidate, sensitive, or special status species in local or regional plans, policies, or regulations, or by the Department or USFWS; nor interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites. The approach of the SAMP/WSAA Process would seek greater avoidance in aquatic resource integrity areas in comparison to the existing case-by-case permitting approach, and thus provide greater protections to key habitat areas important to sensitive and endangered species. Further, under the SAMP/WSAA Process, the compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve and enlarge key habitat areas identified within the Watershed that would be most beneficial to sensitive species. Therefore, potential impacts to sensitive species and their habitats from construction and maintenance of utility lines under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed beyond those required under the SAMP/WSAA Process because no significant impacts to biological resources including threatened and endangered species are anticipated for construction and maintenance of utility projects.

Level of Significance after Mitigation

No significant impacts.

Flood Control Facilities (Construction and Maintenance)

Flood control facilities, described in Section 4.2.3, are located within or near waters under the jurisdiction of the Corps and the Department. As under existing Corps/Department permitting programs, construction and routine maintenance of these facilities that could be permitted under the SAMP/WSAA Process may involve the following with riparian habitats for sensitive species: grading, trenching, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, sediment removal, channel desilting, and vegetation management and removal affecting the quality of jurisdictional waters. Upland habitats for sensitive species may be affected by temporary construction areas and the temporary and permanent storage of stockpiles.

Temporary Impacts

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities.

Permanent Impacts

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities. In addition, otherwise permissible activities cannot be issued an LOP if they would: (a) substantially alter a compensatory mitigation site; (b) involve flood-control related conversions of soft-bottom channels to concrete-lined channels; or (c) result in the channelization of any major stream system such as Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek. Such activities would require a review under an SIP process with additional NEPA/CEQA review and 404(b)(1) analysis.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities.

Mitigation Measures

No mitigation measures are needed beyond what has been incorporated into the proposed SAMP/WSAA Process program described above.

Level of Significance after Mitigation

No significant impacts.

Road Crossings including Bridges and Culverts

Construction of road crossings such as bridges and culverts across or within uplands and riparian areas can be necessary to meet local and regional circulation needs associated with continual development of the Watershed. Bridges may span the watercourse or be constructed with one or more piers depending on bridge length. As under existing Corps/Department permitting programs, construction and routine maintenance at-grade crossings, box culverts, pipe culverts, and bridges that would be permitted under the SAMP/WSAA Process may include grading, excavation, compacting and/or filling, vegetation clearing, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, channel desilting, paving operations and vegetation management and removal.

Temporary Impacts

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Permanent Impacts

The discussion under Category 1 (Utility Lines) is applicable for roads crossings.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Other Federal and State Regulations that Minimize Impacts

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Mitigation Measures

No mitigation measures are needed beyond what has been incorporated into the proposed SAMP/WSAA Process described above.

Level of Significance after Mitigation

No significant impacts.

Land Development for Residential, Commercial, Industrial, Institutional and Recreational Uses

Land development activities permitted under the SAMP/WSAA Process would include residential, commercial, industrial, institutional and recreational uses as well as attendant features to most uses. Land development would typically require vegetation clearing, grading and excavation for construction access, building pads, roads and culverts; boring and trenching for utility, sewer and storm drain installation; and paving operations. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages, redirecting of surface runoff into underground storm drains, temporary stream diversion and dewatering operations.

Temporary Impacts

Temporary impacts may result from the construction activities including temporary construction access roads and construction staging areas. Such impacts would include temporary disturbance to native upland and riparian habitats and the federally and state-listed species that occupy them. Temporary impacts can also affect species and their upland and riparian habitats resulting from required grading, stockpiling, trenching, temporary stream diversion, dewatering operations, temporary construction access roads, and work areas.

Construction activities can have indirect impacts on listed species such as from construction noise. In addition, downstream effects on aquatic habitat may result from the following factors: potential discharge of construction-related pollutants (e.g., concrete, waste oil solvents, debris, etc spilled, leaked or transported via storm runoff into downstream areas); or temporary change in hydrologic or geomorphic characteristics of the water body during certain flow conditions affecting the rate of downstream erosion and sedimentation (See also discussions in Section 4.4, Hydrology, Erosion and Sedimentation and Section 4.5, Water Quality).

Permanent Impacts

Construction of residential, commercial, industrial, institutional, and recreational features such as utilities, building pads, roads, bridges, or culverts within or over a drainage course may require the permanent removal of upland and riparian habitat that would permanently affect sensitive species. In addition, large land development activities may permanently disrupt migration corridors and make it difficult or impossible for wildlife to pass through or around a large development. However, unlike the current case-by-case permitting process, the proposed SAMP/WSAA Process seeks greater avoidance in aquatic resource integrity areas, including the avoidance of high value migration corridors.

Several indirect impacts to sensitive species can occur following completion of land development projects. For example domestic pets (in particular cats) from a new residential neighborhood can be predators that kill wildlife once they gain access to native habitats. The federally-listed coastal California gnatcatcher may be particularly vulnerable to such threats. Additionally, increased human activity from new residential neighborhoods can disturb sensitive species in their habitat and discourage species re-occupation. Post-construction noise, such as from traffic serving new development may affect sensitive

wildlife located nearby. Increased night lighting has also been known to adversely impact sensitive wildlife species. In addition, downstream water quality impacts and hydrologic impacts on sensitive aquatic habitat may continue post-construction resulting from increases in urban and storm water runoff. For individual projects, many such impacts would be discussed in detail in separate CEQA documents required by local agencies.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for land development activities.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Category 1 (Utility Lines) is applicable for land development activities.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for land development.

Mitigation Measures

No mitigation measures are needed to beyond what has been incorporated into the proposed SAMP/WSAA Process.

Level of Significance after Mitigation

No significant impacts.

Storm Water Treatment and Management Facilities

Construction and maintenance activities of storm water treatment and management facilities permitted under the SAMP/WSAA Process would include the following activities within upland and riparian areas: grading, trenching, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, desilting, and vegetation and sediment management and removal.

Temporary Impacts

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Permanent Impacts

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities

Mitigation Measures

No mitigation measures are needed beyond what has been incorporated into the proposed SAMP/WSAA Process described above.

Level of Significance after Mitigation

No significant impacts.

Habitat Restoration and Enhancement Projects

Habitat restoration and enhancement projects are typically located in jurisdictional areas to fulfill their functions in restoring and/or improving wetland/riparian habitat and their upland buffers to increase wildlife habitat and hydrologic functions and values. As under existing Corps/Department permitting programs, construction and maintenance of habitat restoration and enhancement projects may include clearing and grading, channel reconfiguration, installation of check dam features, vegetation management and removal, sediment removal, temporary stream diversion, dewatering operations, and installation of temporary access roads and work areas.

Temporary Impacts

Temporary impacts to federally and state-listed species and their upland and riparian habitats can result from habitat restoration and enhancement projects. Construction of habitat restoration and enhancement projects can have temporary water quality impacts from erosion and sedimentation into Receiving Waters. Species may also be affected from required grading, stockpiling, trenching, temporary stream diversion, dewatering operations, temporary construction access roads, and work areas that affect upland and riparian habitats occupied by sensitive species.

Permanent Impacts

No permanent impacts are expected from this regulated activity. The purpose of habitat restoration and enhancement projects is to restore and/or improve wetland/riparian habitat and hydrologic functions and values, including those habitats for sensitive species. Although not specifically designed for water quality treatment, habitat restoration and enhancement projects can help filter pollutants in urban and storm runoff, thereby providing an indirect beneficial effect on water quality and consequently sensitive species habitat downstream of proposed projects

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Mitigation Measures

No mitigation measures are needed beyond what has been incorporated into the proposed SAMP/WSAA Process.

Level of Significance after Mitigation

No significant impacts.

Fire Abatement and Vegetative Fuel Management Activities

Fire abatement and vegetative fuel management activities that could be permitted under the SAMP/WSAA Process may involve thinning of vegetation, clearing of brush, and installing construction access roads and work areas.

Temporary Impacts

Temporary impacts to federally and state-listed species and their upland and riparian habitats can occur from the thinning of riparian and upland vegetation and from temporary clearing for access roads and work staging areas. Additionally, equipment noise can cause temporary disturbance to sensitive species

Permanent Impacts

No permanent impacts are anticipated as a result of the fire abatement and vegetative fuel management activities.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities. Since the Corps does not regulate the removal of vegetation with hand tools, fire abatement activities may not be considered a Corps-jurisdictional activity. Thus, the activity would then be solely under the jurisdiction of the Department and only the WSAA Process conditions would apply.

Other Applicable Federal and State Regulations that Minimize Impacts

The discussion under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities.

Mitigation Measures

No mitigation measures are needed beyond what has been incorporated into the proposed SAMP/WSAA Process.

Level of Significance after Mitigation

No significant impacts.

4.4 HYDROLOGY, EROSION, AND SEDIMENTATION

4.4.1 Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. The following standards of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this analysis, an impact is considered significant if the proposed project would:

- Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level which would not support existing land uses or planned uses for which permits have been granted);
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner which would result in substantial erosion or siltation on- or off-site;
- Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which would result in flooding on- or off-site;
- Create or contribute runoff water which would exceed the capacity of existing or planned stormwater drainage systems;
- Place housing within a 100-year flood hazard area as mapped on a federal Flood Hazard boundary or Flood Insurance Rate Map or other flood hazard delineation map; or
- Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, inundation by seiche, tsunami, or mudflow.

Topics listed in Appendix G overlap with those found within the 404(b)(1) Guidelines. Table 4-3 shows the overlap.

Table 4-3. Comparison of Corps 404(b)(1) Guidelines and CEQA Appendix G.

Topics	404(b)(1) Guidelines	Appendix G^
Hydrology	230.10 (c 3) Subpart C	VIII (b-e)

^ Roman numerals relate to the text of Appendix G.

4.4.2 Impacts

The regulated activities that would be permitted under the SAMP/WSAA Process are similar in nature to regulated activities that would otherwise be permitted under existing Section 404 and Section 1600 *et seq.* regulations. As such, potential hydrologic impacts from these regulated activities would be expected to be similar in nature to those authorized under the existing Corps and Department permitting framework. However, the SAMP/WSAA Process was established based on a holistic, Watershed-wide evaluation of resources from which permit conditions, compensatory mitigation and targeted restoration requirements were developed to help maintain and improve the Watershed ecosystem integrity, including hydrologic integrity over the existing case-by-case permitting programs. Therefore, under the SAMP/WSAA Process impacts to watershed hydrology would be minimized overall.

The SAMP/WSAA Process represents a comprehensive planning program for the location and extent of potential aquatic resource impacts, compensatory mitigation and restoration so that impacts to the Watershed as a whole are targeted to areas which would not substantially alter the baseline functions (i.e., areas of low ecological integrity), while areas of high integrity are avoided, maintained or improved to the maximum extent practicable. Therefore, potential hydrologic impacts of regulated activities under the SAMP/WSAA Process would be expected to be minimized overall, in comparison to existing permitting programs, and in fact may ultimately result in an improvement in Watershed ecosystem integrity, including watershed hydrology.

Following is a programmatic impact analysis of each regulated activity resulting from authorization of temporary and permanent discharges of dredged or fill material to waters of the U.S. under the Corps proposed RGP and LOP, as well as temporary and permanent impacts to Department jurisdictional areas under the proposed WSAA Process.

Utility Lines (Construction and Maintenance)

The proposed SAMP/WSAA Process is applicable to the construction and maintenance of utility features across or adjacent to jurisdictional drainages. Utility lines often cross one or more jurisdictional waters as part of the utility distribution system. Utility lines are sometimes attached to bridges, if available and feasible, but often, the lines are trenched and placed underground. Construction and maintenance of pump stations and lift stations are also included in this category of activities eligible for the proposed permitting process. These structures are commonly located in or adjacent to jurisdictional waters as these are the natural corridors of subsurface and surface waters. Periodic maintenance is required for repair and/or replacement of damaged lines or structures. Construction and maintenance activities may result in temporary discharges from grading and excavation for foundations, supports and structures, boring, backfill, and/or bedding placement, temporary stream diversion, vegetation clearing, dewatering operations, temporary construction access roads and work areas.

Temporary Impacts

Potential hydrologic impacts from construction and maintenance of utility lines include temporary loss of aquatic habitats, temporary and minor changes in channel hydrology, redirection or intensification of flows toward adjacent properties, and potential short-term discharges of sediment during grading and excavation.

Permanent Impacts

The vast majority of new utility lines in the Watershed would service new developments, and therefore, most potential impacts associated with new utility lines would be accounted for in the land development category. No new structures outside the extent of land development activities are expected to be built within or adjacent to riparian habitat.

Requirements and Applicable General Conditions of the RGP, LOP, and WSAA Process

The Corps proposed maintenance RGP authorizes discharges of dredged and fill materials outside aquatic resource integrity areas, resulting in temporary impacts up to 0.5 acres of which only 0.1 acre may be vegetated with native riparian and/or wetland vegetation. This RGP contains several general conditions that address potential hydrology, erosion and sedimentation impacts. These conditions are listed below and detailed in Table 2-4 of Section 2.1.2.3.

- Condition No. 5 Soil Erosion and Siltation Controls;
- Condition No. 6 Equipment;
- Condition No. 7 Suitable Material;
- Condition No. 8 Management of Water Flows;
- Condition No. 9 Removal of Temporary Fills;
- Condition No. 10 Preventive Measures; and
- Condition No. 11 Staging of Equipment.

The Corps would issue an LOP for temporary impacts within aquatic resource integrity areas only for: 1) the purpose of maintaining established structures (and permanent impacts up to 0.1 acres); 2) would not result in stream channelization/storm drain conversion for five major stream systems in aquatic resource integrity areas including Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek and Serrano Creek; 3) would only apply to projects with a small overall footprint; and 4) would not substantially alter a compensatory mitigation site. LOP conditions that address hydrologic effects are similar to those of the Maintenance RGP and include the following (see Table 2-3 of Section 2.1.2.3 for details)

- Condition No. 4 Soil Erosion and Siltation;
- Condition No. 5 Equipment;
- Condition No. 6 Suitable Material;
- Condition No. 7 Management of Water Flows;
- Condition No. 9 Preven tive Measures; and
- Condition No. 10 Staging of Equipment.

The Corps would issue LOPs for impacts to waters of the U.S. outside of aquatic resource integrity areas for applicants who can demonstrate impact avoidance and minimization was achieved to the extent practicable and resulting changes in low integrity areas would only have a minor effect on Watershed integrity. LOP procedures apply to those projects that do not qualify for the RGP. A mitigation plan must be prepared in accordance with the compensatory mitigation requirements of the LOP that effectively addresses unavoidable impacts to waters of the U.S. and the goal of no net loss of wetlands and functional integrity units. The application must also contain a description of BMPs to be used during project implementation to control siltation and erosion. Compliance with the General Conditions is required for the RGP and the LOP, respectively.

In addition, the Department's WSAA Process contains numerous general conditions applicable to utility projects that would further help avoid, minimize and mitigate potential impacts on hydrology, erosion and sedimentation. Applicable mitigation is contained in the following conditions (see the Master Streambed Condions List of the WSAA Process in Appendix D for full descriptions of the conditions):

- Condition Nos. 35 – 42 Routine Channel Maintenance;
- Condition Nos. 46 – 64 Placement of Instream Structures;
- Condition Nos. 65 – 76 Small Dam and Pond Construction;
- Condition No. 77 Directional Drilling;
- Condition Nos. 78 – 87 Fill and S poils;
- Condition Nos. 88 – 95 Turbidity and Siltation; and
- Condition Nos. 95 – 122 Equipment Access, Pollution, Sedimentation and Litter.

Other Applicable Regulations

Many of the construction BMPs required by the RWQCB through the NPDES storm water regulations help minimize erosion and sediment in storm water discharges into Receiving Waters (See Section 4.5, Water Quality for details). Implementation of these BMPs for utility line projects would therefore help reduce sediment loading into San Diego Creek and Newport Bay.

Impact Analysis Conclusion

Construction and maintenance of utility line projects under the proposed SAMP/WSAA Process would not be expected to substantially deplete groundwater supplies or interfere with groundwater recharge, substantially alter the existing drainage pattern of a site or area, substantially increase the rate or amount of surface runoff nor create hydraulic obstructions that could result in flooding, create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems, place housing within a 100-year flood hazard area, nor expose people or structures to a significant risk from flooding. No significant impacts are anticipated because any activities authorized under the new SAMP/WSAA Process would be subject to conditions of the RGP or LOP, and WSAA Process and other agency regulatory permit programs. Therefore potential hydrologic, erosion and sedimentation impacts from construction and maintenance of utility lines under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant hydrologic, erosion and sedimentation impacts are expected from utility line projects**.**

Level of Significance After Mitigation

No significant impacts.

Flood Control Facilities

Flood control facilities are located within or near jurisdictional waters. These facilities are designed and constructed in accordance with County hydrologic design standards to protect life and property against flooding, stabilize channels against lateral migration or downcutting, and manage sediment loads. Construction of flood control facilities generally requires soil excavation, fill and compaction. Sometimes lining with concrete or other armoring product is involved, or bank stabilization measures are added. Maintenance typically involves periodic dredging of accumulated sediments in channels, basins outfall and intake structures, culverts and other structural features of the conveyance system, as well as periodic removal of vegetation to restore the original basin and channel design capacity and configuration. These activities may also require temporary stream diversion, dewatering operations, and installation of temporary access roads and work areas.

Temporary Impacts

Temporary impacts could include a short-term change in hydrologic or geomorphic characteristics of the stream channel during certain flow conditions affecting the rate of erosion and sedimentation. Also uncontrolled erosion and sedimentation into the stream channel can increase the sediment load in the Watershed (indirect impact).

Permanent Impacts

New or improved flood control facilities can result in permanent loss of aquatic habitat from removal of riparian vegetation and replacement with channel armoring or other structures. The activities can also result in permanent alteration to channel hydrology and/or hydraulic characteristics due to channel reconfiguration, which can accelerate or decelerate flows, redirect flow paths, or disrupt channel profiles resulting in an increase in erosion or sedimentation (indirect impact).

Engineered basins (detention, retention or debris) intentionally disrupt the hydrologic and/or sediment balance within a drainage system. Engineered basins can accumulate sediment loads during low flow periods, reducing sediment supply to downstream reaches and increasing channel erosion potential. During periods of high flow, the basins can act as sources of sediment load, and previously accumulated deposition can be re-suspended and transported downstream, potentially exacerbating sedimentation problems. Regular maintenance of detention, retention and debris basins is necessary to maintain their proper function.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities. In addition, otherwise permissible activities could not be issued an LOP if they would: (a) substantially alter a compensatory mitigation site; (b) involve flood-control related conversions of soft-bottom channels to concrete-lined channels; or (c) result in the channelization of any major stream system such as Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek. Such

activities would require review under an SIP process and individual SAA with additional NEPA/CEQA review and 404(b)(1) analysis.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities. Also, adherence to the flood control requirements of Orange County's Flood Control Design Manual (County of Orange 2000) or other municipal flood control design manuals would ensure proper design of flood control facilities to control flooding and sediment discharges in downstream channels of the Watershed including San Diego Creek and Upper Newport Bay.

Impact Analysis Conclusion

Overall, construction and maintenance of flood control facilities would not be expected to substantially deplete groundwater supplies or interfere with groundwater recharge; substantially increase the rate or amount of surface runoff nor create hydraulic obstructions that could result in flooding; create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems; place housing within a 100-year flood hazard area; nor expose people or structures to a significant risk from flooding. The aquatic resource impact restrictions and general conditions of the Corps RGP and LOP and the Department's Level 1 – 3 SAA templates and other applicable flood control regulations would reduce potential impacts. New or improved flood control facilities could substantially alter the existing drainage pattern of a site or area, but all designs would be in accordance with locally approved drainage plans and with the Orange County Flood Control Design Manual or other municipal flood control design manuals to control downstream flooding and sedimentation impacts. Additionally, under the SAMP/WSAA Process, compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve hydrologic function in overall in the Watershed in comparison to existing Corps and Department permitting programs. Therefore, potential impacts to hydrology, erosion and sedimentation from construction and maintenance of flood control facilities under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant hydrologic, erosion and sedimentation impacts are expected.

Level of Significance after Mitigation

No significant impacts.

Road Crossings including Bridges and Culverts

The proposed SAMP/WSAA Process provides a comprehensive permitting process for bridges, at-grade crossings and culverts across jurisdictional drainages within the Watershed, as described in Section 4.2.3

Temporary Impacts

Construction activities could include placement of temporary coffer dams, boring, dredging, and fills for construction and access. During construction of crossings, temporary impacts to channel hydrology and surface flows would be expected from the work required in the channel. Temporary impacts could be associated with diversion or retention of flows away from the construction area, including increased sedimentation in retention areas and increased erosion along temporary diversion paths.

Temporary loss of aquatic habitat in and adjacent to the watercourse could occur during construction in, and adjacent to, the channel.

Permanent Impacts

Permanent loss of aquatic habitat in and adjacent to the watercourse could occur in the long-term from placement of structural features in and adjacent to the channel. Depending on the design and location, construction of a crossing has the potential to narrow and deepen a drainage channel. The resulting effect can be localized channel scour, as well as flow and sediment that backs-up in the channel. Culverts typically reduce the channel cross-sectional area locally, which tends to slow upstream flows, increasing sedimentation upstream of the crossing, and increasing erosion potential downstream of the crossing. All road crossings would be designed and constructed in accordance with the Orange County Flood Control Design Manual (County of Orange 2000) to minimize potential for channel scour, upstream flooding and downstream sedimentation.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for road crossing involving bridges and culverts across jurisdictional areas.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for road crossings. Also, adherence to the flood control requirements of Orange County's Flood Control Design Manual (County of Orange 2000) or other municipal flood control design manuals would ensure proper design of road crossings to control flooding and sediment discharges in downstream channels of the Watershed.

Impact Analysis Conclusion

Overall, construction and maintenance of road crossings across jurisdictional waters would not be expected to substantially deplete groundwater supplies or interfere with groundwater recharge, substantially increase the rate or amount of surface runoff nor create hydraulic obstructions that could result in flooding; create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems, place housing within a 100-year flood hazard area, nor expose people or structures to a significant risk from flooding. The aquatic resource impact restrictions and general conditions of the Corps RGP and LOP and the Department's Level 1 – 3 SAA temmplates (of the WSAA Process) and other applicable regulations would help minimize potential impacts. New or improved bridges and culverts could substantially alter the existing drainage pattern of a site or area, but all designs would be in accordance with locally-approved drainage plans and with the Orange County Flood Control Design Manual or other municipal flood control design requirements to control downstream flooding and sedimentation impacts.

Additionally, under the SAMP/WSAA Process, the compensatory mitigation and restoration program would target mitigation/restoration to areas of the Watershed that provide the most benefit to the ecosystem function (including hydrologic function), instead of emphasizing on-site restoration, so that ultimately the SAMP/WSAA Process, in comparison to existing case-by-case permitting, would result in increased ecosystem integrity overall in the Watershed.

Therefore, under the proposed SAMP/WSAA Process, potential impacts to hydrology, erosion and sedimentation from construction and maintenance of road crossings including bridges and culverts would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant hydrology, erosion and sedimentation impacts are expected.

Level of Significance after Mitigation

No significant impacts.

Land Development for Residential, Commercial, Industrial, Institutional and Recreational Uses

Land development activities permitted under the SAMP/WSAA Process would include residential, commercial, industrial, institutional and recreational uses as well as attendant features. Land development typically requires grading and excavation for construction access, building pads, roads and culverts, paving operations, and boring and trenching for utility, sewer and storm drain installation. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages and the redirecting of surface runoff into underground storm drains, vegetation clearing, temporary stream diversion, and dewatering operations.

Temporary Impacts

Construction of land development projects can have temporary erosion and sedimentation impacts to streams and channels primarily from vegetation clearing, grading and excavation activities if not properly controlled. This increase in sedimentation can create downstream (indirect impacts) to San Diego Creek and Upper Newport Bay.

Permanent Impacts

Grading required for building pads and streets would alter the existing drainage patterns of a project site, although site drainage would be designed in accordance with the Orange County Hydrology and Flood Control Design Manual and approved by the local municipality. Permanent fills in some natural drainages and/or agricultural ditches would likely occur. Storm flows would be redirected to underground storm drains or above ground channels. Land development projects could create several indirect impacts to downstream hydrology. For example, new development would increase the amount of impervious surface area (paved areas and buildings), thus decreasing infiltration of rainfall and increasing runoff to local drainages, San Diego Creek and ultimately to Upper Newport Bay. Subsequent increased volumes and velocity of storm flows could create erosion and sedimentation in downstream earthen channels, including San Diego Creek and Upper Newport Bay. Under certain circumstances, development could also result in a reduction in the amount of available sediment for transport. Storm flows could impact the sediment-carrying capacity by eroding a downstream channel. These changes have the potential to permanently impact downstream channels and ultimately hydrologic integrity. In addition, the reduction in pervious surface area would reduce the volume of water available for groundwater recharge (indirect impact).

The SAMP/WSAA Process reduces or eliminates floodplain encroachment as these areas are avoided and potential impacts from land development are minimized via SAMP/WSAA Process mitigation/restoration requirements. Thus, no significant impacts to floodplain values are anticipated. Within the aquatic resource integrity areas, floodplain values are expected to increase in both quality and extent, with new riparian corridors planned to connect previously disconnected areas.

New development projects would be planned and designed in accordance with local municipal polices and ordinances to prevent future flood hazards. No new housing projects would be located within a 100-year flood hazard area as mapped on a federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map. Also, most remaining new development in the Watershed would be located inland and upstream of coastal areas and would not be expected to expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding of a levee or dam or inundation or mudflow, because new construction would be built in accordance with applicable flood control requirements.

New development that would be authorized under the Corps LOP and Department's WSAA Process would be subject to CEQA review by the local permitting agency. At that time, site-specific drainage and any potential flood hazard issues would be identified.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for land development.

Other Applicable Regulations

New development may change drainage patterns and/or increase surface runoff, however, new storm drainage systems would be designed in accordance with the Orange County Hydrology Manual and Flood Control Design Manual (County of Orange 2000). Adherence to these design standards would ensure proper conveyance of storm flows and minimize the potential for flooding on-site and downstream. Furthermore, existing downstream drainage facilities that are not of sufficient size to receive increased runoff or address flows associated with a change in drainage pattern would be redesigned in accordance with design specifications referenced in the Orange County Flood Control Design Manual to properly convey storm flows and control potential flooding and sedimentation in downstream channels.

Many local jurisdictions in the Watershed have polices and regulations to help minimize flood hazards. For example, the City of Newport Beach has established a Risk Reduction Program which is intended to provide the maximum reasonable mitigation of natural physical hazards to life and property in Newport Beach. The following policies have been established for flood hazards:

- The City shall endeavor to restrict future development in areas of high flood hazard until it can be shown that the risk is or can be mitigated.
- The City shall support regional planning efforts toward the control of flood risk from the San Diego Creek by monitoring existing programs and when appropriate joining in the endeavors of various jurisdictions to lessen potential flood hazard.
- The City shall require flood hazard studies as an integral portion of all environmental impact reports, with detailed flood hazard mitigation measures for all projects in potential flood hazard areas.

With regard to erosion and sedimentation control, California General Permit for Storm Water Discharges Associated with Construction Activities (Order No. 99-08-DWQ) requires that projects involving one acre or greater must prepare and implement a Storm Water Pollution Prevention Plan (SWPPP) to help minimize erosion and sediment in storm water discharges to local drainage channels. (See Section 4.5, Water Quality for details).

Additional local requirements to control post-development storm water volumes and velocity are set forth in the MS4 NPDES storm water permit (Order No. R8-2002-0010, NPDES No. CAS618030, currently under renewal). Among the numerous requirements, this permit requires local jurisdictions (permittees) to incorporate watershed protection principles and policies in their General Plan or related documents (e.g. Development Standards, Zoning Codes, Conditions of Approval, and Development Project Guidance) to ensure such policies are implemented during the land development process. Examples of the types of principles and policies incorporated into local general plans are:

- Minimize changes in hydrology;
- Incorporate controls, including structural and non-structural BMPs to mitigate the projected increases in flows;
- Ensure that post-development runoff rates and velocities from a site have no significant adverse impact on downstream erosion and stream habitat;
- Minimize the quantity of storm water directed to impermeable surfaces and the MS4s;
- Maximize the percentage of permeable surfaces to allow more percolation of storm water into the ground;
- Establish development guidelines for areas particularly susceptible to erosion and sediment loss; and
- Revise their current grading/erosion control ordinances in order to reduce erosion caused by new development or significant re-development.

These new general plan policies are implemented through new development standards required by the MS4 NPDES storm water permit. Now, new development in the County and cities must minimize the effects of urbanization on hydrology by incorporating praticable programs and policies including "Site Design BMPs". Site Design BMPs involve, among other measures, minimizing the amount of new impervious surface area and allowing for more infiltration of runoff. These BMPs would help decrease the volume and velocity of flows from a new development site, thus minimizing the potential for erosion at the site and in unlined channels downstream, as well as sediment deposition into downstream Receiving Waters. These BMPs would also help reduce some loss of infiltration to groundwater.

The 2003 Orange County DAMP (Section 7) and the municipal Local Implementation Plans (LIPs) within the Watershed require all new development and significant redevelopment projects to implement a Water Quality Management Plan (WQMP) that specifies BMPs to control post-construction urban runoff and storm water pollution. The goal of the WQMP is to ensure that new development and significant redevelopment control pollutant loads and urban runoff flow rates and velocities with the use of appropriate site design, source control and treatment control BMPs. The goal may be achieved through watershed-based structural treatment controls, in combination with site-specific BMPs. WQMPs for new development projects in the Watershed would be submitted to local jurisdictions for review and approval. Orange County's Model WQMP, contains procedures for identifying potential impacts to a channel's hydrologic regime and provides steps to minimize the impacts of urbanization on site hydrology, urban

runoff flow rates or velocities and pollutant loads. The goal may be achieved through watershed-based structural treatment controls, in combination with site-specific BMPs.

Impact Analysis Conclusion

Although land development may alter the existing drainage pattern of a site or area and increase the rate or amount of surface runoff, any potential significant impact to surface and groundwater hydrology would be mitigated to a level considered less than significant through the implementation of local drainage and flood control design requirements, site design BMPs required by the MS4 NPDES Permit as well as the aquatic resource impact restrictions and general conditions required in the LOP, RGP and/or WSAA Process. Thus, implementation of the SAMP/WSAA Process for land development projects would not be expected to substantially deplete groundwater supplies or interfere with groundwater recharge; create hydraulic obstructions that could result in flooding; create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems; place housing within a 100-year flood hazard area; or expose people or structures to a significant risk from flooding.

Additionally, under the SAMP/WSAA Process, the compensatory mitigation and restoration program would target mitigation/restoration to areas of the Watershed that provide the most benefit to the ecosystem function (including hydrologic function), instead of emphasizing on-site restoration, so that ultimately the SAMP/WSAA Process, in comparison to existing case-by-case permitting, would result in increased ecosystem integrity overall in the Watershed. Therefore, under the proposed SAMP/WSAA Process, potential impacts to hydrology, erosion and sedimentation from new land development would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant hydrology, erosion and sedimentation impacts are expected.

Level of Significance after Mitigation

No significant impacts.

Stormwater Treatment and Management Facilities

Stormwater treatment and management facilities, as described in Section 4.2.3, would typically be located within or near jurisdictional waters. These facilities are designed to capture urban runoff and smaller storm flows for treatment and subsequent return to surface water or infiltration to groundwater. Construction of such facilities would include dredging, trenching, temporary stream diversion, dewatering operations, channel desilting, grading and installation of temporary access roads and work areas. Maintenance may involve vegetation management and removal, and dredging of accumulated sediments and potentially contaminated soil to restore the basin and channel design capacity and configuration. Maintenance activities may also involve excavation of accumulated sediments in outfall and intake structures, culverts and other structural features of the conveyance system to maintain design capacity.

Temporary Impacts

Construction activities generally require soil excavation, fill and compaction which could lead to a temporary increase in erosion and sedimentation to downstream channels if not properly controlled.

Maintenance activities such vegetation management and dredging would generally be temporary and involve short-term disruption of hydrologic, erosion and sedimentation characteristics of disturbed areas.

Permanent Impacts

Storm water treatment and management facilities would typically be designed and constructed in accordance with the treatment BMP standards outlined in the model WQMP of the County DAMP (or other model WQMP adopted by local jurisdictions) to help minimize potential effects on site hydrology and runoff flow rates or velocities. These permanent structures are sometimes lined with concrete or other armoring product, or bank stabilization measures are added. Construction of these facilities could result in permanent loss of aquatic habitat from removal of riparian vegetation and replacement with channel armoring or other structures. The activities could also result in permanent alteration to channel hydrology and/or hydraulic characteristics due to channel reconfiguration.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Mitigation Measures

No mitigation measures are needed since no significant hydrology, erosion and sedimentation impacts are expected.

Level of Significance after Mitigation

No significant impacts

Habitat Restoration and Enhancement Projects

Habitat restoration and enhancement projects are typically located in jurisdictional areas to fulfill their functions in restoring and/or improving wetland/riparian habitat to increase wildlife habitat and hydrologic functions and values. As under existing Corps/Department permitting programs, construction and maintenance of habitat restoration and enhancement projects may include clearing and grading, channel reconfiguration, installation of check dam features, vegetation management and removal, sediment removal, temporary stream diversion, dewatering operations, and installation of temporary access roads and work areas.

Temporary Impacts

During construction of habitat restoration projects, temporary sedimentation to downstream channels may occur due to potential clearing and grading activities, if not properly controlled. Stream diversion and

dewatering operations during both temporary construction and maintenance can disrupt the erosion/sedimentation balance of the local system.

Permanent Impacts

The purpose of habitat restoration and enhancement projects is to restore and/or improve wetland/riparian habitat and hydrologic functions and values. No permanent hydrologic, erosion and sedimentation impacts would be expected.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion of applicable conditions under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Other Applicable Regulations

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Mitigation Measures

No mitigation measures are needed since no significant impacts are expected.

Level of Significance after Mitigation

No significant impacts.

Fire Abatement and Vegetative Fuel Management Activities

Fire abatement and vegetative fuel management activities that could be permitted under the SAMP/WSAA Process may involve thinning of vegetation, clearing of brush, and installing construction access roads and work areas. This work may occur within or adjacent to waters that are under the jurisdiction of the Corps and the Department.

Temporary Impacts

Impacts from the vegetation clearing and thinning for fire abatement and vegetative fuel management purposes would be generally be minor and could include short-term disruption of erosion and sedimentation characteristics of disturbed areas. Natural flow paths could be diverted and a temporary increase in runoff and erosion rates could occur creating temporary erosion and sedimentation into nearby riparian areas and downstream channels.

Permanent Impacts

No permanent impacts on hydrology, erosion and sedimentation would be expected.

Applicable General Conditions of WSAA Process

Under the proposed SAMP/WSAA Process, fire abatement and vegetative fuel management activities would be regulated under the WSAA Process only. In many cases, this activity would not be regulated by the Corps since the Corps does not regulate the removal of vegetation with hand tools. However, the Department has no such restriction and therefore, the discussion of applicable WSAA Process conditions

(Level 1 – 3 SAA templates) under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities.

Impact Analysis Conclusion

Overall, fire abatement and vegetative fuel management activities in the Watershed would not be expected to substantially deplete groundwater supplies or interfere with groundwater recharge; substantially increase the rate or amount of surface runoff nor create hydraulic obstructions that could result in flooding; nor create or contribute runoff which would exceed the capacity of existing or planned storm water drainage systems. Therefore, potential impacts to hydrology, erosion and sedimentation from these activities under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant impacts to hydrology, erosion and sedimentation are expected.

Level of Significance after Mitigation

No significant impacts.

4.5 WATER QUALITY

Consistent with federal requirements under 33 CFR 320.4(d) and FGC Section 1600 *et seq.*, this section evaluates the potential for regulated activities under the SAMP/WSAA Process to affect the quality of waters of the U.S. and state jurisdictional waters, and evaluates compliance with applicable effluent limitations and water quality standards.

4.5.1 Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. The following standards of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this analysis, the proposed SAMP/WSAA Process would be considered to have a significant water quality impact if it would:

- Violate any water quality standards, waste discharge requirements or established TMDLs, or otherwise substantially degrade water quality; or
- Create or contribute runoff that would provide substantial additional sources of polluted runoff.

Topics listed in Appendix G overlap with those found within the 404(b)(1) Guidelines. Table 4-5 shows the overlap.

Table 4-5. Comparison of Corps 404(b)(1) Guidelines and CEQA Appendix G.

11Topics	404(b)(1) Guidelines	Appendix G^
Water Quality	230.10 (b 1-2; c 1-3) Subpart C	VIII (a, f)

^ Roman numerals relate to the text of Appendix G.

4.5.2 Impacts

This section begins with an evaluation of the consistency of the proposed SAMP/WSAA Process with the numerous state and federal water quality policies and regulations. This evaluation is followed by the programmatic impact evaluation of the regulated activities.

Consistency of SAMP/WSAA Process with Existing Water Quality Policies and Regulations

Tables 4-6 through 4-8 demonstrate the consistency of the SAMP/WSAA Process with existing water quality policies and regulations described previously. As the tables indicate, implementation of the SAMP/WSAA Process (e.g., Corps RGP, LOPs and the Department's Level 1 – 3 SAA templates of the WSAA Process) would have little or no effect on how existing water quality regulations and policies would apply to regulated activities of the SAMP/WSAA Process. Additionally, the SAMP/WSAA Process would neither conflict nor be inconsistent with existing water quality regulations and policies.

Table 4-6. Consistency of Proposed RGP with Existing Water Quality Policies/Regulations

Existing Policy/ Regulation	Consistency Determination
RWQCB Basin Plan Beneficial Uses/Water Quality Objectives	The RGP is consistent. The RGP would not replace or obviate any beneficial uses or water quality objectives of the Basin Plan (including the CTR). The RGP contains conditions to help minimize impacts to beneficial uses and water quality objectives. Maintenance activities authorized under this RGP would be temporary, limited to less than 0.5 acres of impact to waters of the U.S. and limited to areas of low ecosystem integrity. Activities would be subject to the RGP condition that requires the applicant to obtain 401 certification and subject to other federal and state BMP requirements to control pollutants in runnoff. Also, compensatory mitigation required by the RGP would offset any impacts to levels that are less than significant. Therefore, the RGP is not expected adversely impact beneficial uses and water quality objectives of the Basin Plan.
TMDLs	The RGP is consistent. The RGP will not replace or obviate any requirements of the TMDLs. Dischargers in the Watershed would still be required to comply with requirements of TMDL implementation plans (including WDRs). Because this RGP will only authorize temporary impacts to waters of the U.S. that are less than 0.5 acres, potential discharges of sediments, nutrients, bacteria, and other toxic substances currently regulated under TMDLs would be minimal and controlled by conditions of the RGP, WSAA Process, and BMP requirements of other state and federal water quality regulations.
NPDES Storm Water Permits/DAMP	The RGP is consistent. The RGP will not replace or obviate any requirements of the state NPDES General or Industrial permits or the NPDES MS4 Permits or the DAMP. Activities would be subject to the RGP condition that requires the applicant to obtain 401 certification and subject to other federal and state BMP requirements to control pollutants in runnoff. The RGP would not result in irrevocable commitments that prevent the proper implementation of required BMPs or adherence to effluent limitations under an NPDES permit. Public (municipal) and private activities authorized under this RGP would remain subject to requirements of NPDES storm water permits and would still need to comply with requirements of the DAMP.
General NPDES Permit/WDRs for Short-Term Groundwater Discharges and *De Minimus* Wastewater Discharges	The RGP is consistent. The RGP will not replace or obviate any requirements of the proposed General NPDES Permit/Waste Discharge Requirements for Short-Term Groundwater Discharges and *De Minimus* Wastewater Discharges. Some of the activities authorized under the RGP could involve dewatering and groundwater discharges and/or *de minimus* wastewater discharges, and would be expected to comply with the requirements of this General NPDES permit.
401 Water Quality Certification/WDRs	The RGP is consistent. As with all Section 404 general permits, the Corps will need to obtain 401 water quality certification and WDRs for this RGP (or any activity authorized thereunder) to ensure authorized activities to discharge dredged and fill material are consistent with the State's water quality standards and criteria. This RGP would authorize temporary impacts to waters of the U.S. that are less than 0.5 acres and located in areas of low ecosystem integrity. The RGP contains conditions to help minimize potential impacts to water quality in addition to BMP requirements of existing federal, state and local water quality regulations. Also, compensatory mitigation required by the RGP would offset any potential impacts to levels that are less than significant. Through the 401 certification process, the RWQCB is likely to provide additional conditions to help further minimize potential impacts.
General Discharge Prohibitions	The RGP is consistent. The RGP would authorize only temporary impacts to waters of the U.S. of less than 0.5 acres in areas of low ecosystem integrity. This RGP would not authorize releases of toxic substances or metals, pesticides, PCBs, mercury compounds, radioactive substances, or other pollutants in excess of the California Code of Regulations, and in fact contains conditions to control discharges of pollutants into Receiving Waters, in addition to BMPs required by existing federal, state and local regulations.

Existing Policy/ Regulation	Consistency Determination
Antidegradation Policy	The RGP is consistent. The RGP would not significantly affect present or probable future beneficial uses and would not result in degraded water quality overall in the San Diego Creek Watershed. Under this RGP, impacts to waters of the U.S. would be temporary, confined to less than 0.5 acres and would be located within areas of low water quality integrity. Because no permanent impacts would be authorized under this RGP, no permanent degradation would occur. Because impacts are confined to a small area, any temporary degradation would be minimized. Because this RGP would apply to areas with lower functioning aquatic resources, the amount of higher quality resources subject to degradation would be small. Activities would be subject to the RGP condition that requires the applicant to obtain 401 certification and subject to other federal and state BMP requirements to control pollutants in runnoff. Further, mitigation required by the RGP would offset any impacts to levels that are less than significant.

Table 4-7. Consistency of Proposed LOP with Existing Water Quality Policies/Regulations

Existing Policy/ Regulation	Consistency Determination
RWQCB Basin Plan Beneficial Uses/Water Quality Objectives	The LOP is consistent. The LOP would not replace or obviate any beneficial uses or water quality objectives of the Basin Plan (including the CTR). For impacts authorized outside aquatic resource integrity areas, there is a low likelihood for significant impacts due to: 1) the low quality of the resources in question; 2) required consultation with resource agencies; and 3) general conditions and compensatory mitigation required as part of the LOP that would help offset potential impacts to beneficial uses. For impacts authorized inside aquatic resource integrity areas, there is low likelihood of significant impacts occurring due to: 1) restriction on temporary impacts for maintaining established structures only ; 2) the small size of authorized permanent impacts (0.1 acre); 2) prohibition of stream channelization or storm drain conversion for five major stream systems; 3) required coordination with the resource agencies, and 4) general conditions and compensatory mitigation requirements of the LOP to offset potential impacts to beneficial uses. Nevertheless, permitted activity would be expected to be in conformance with the Basin Plan because of required consultation with the resource agencies and explicit authorization by the RWQCB.
TMDLs	The LOP is consistent. The LOP would not replace or obviate any requirements of the TMDLs. Dischargers in the Watershed would still be required to comply with requirements of TMDL implementation plans (including WDRs). Some authorized activities under the LOP could result in reductions in sediment and nutrient loads via the conversion of agricultural land to urban development. Potential discharges of sediments, nutrients, bacteria, and other toxic substances would be controlled by conditions of the Corps LOP and BMP requirements of other state and federal water quality regulations.
NPDES Storm Water Permits/DAMP	The LOP is consistent. The LOP would not replace or obviate any requirements of the NPDES storm water permits (including MS4 Permits) or the DAMP/LIP. The LOP includes conditions to help minimize impacts on water quality. The LOP would not result in irrevocable commitments that prevent the proper implementation of required BMPs or adherence to effluent limitations under an NPDES permit. Public (municipal) and private activities authorized under this LOP would remain subject to requirements of NPDES storm water permits and would still need to comply with requirements of the DAMP.
General NPDES Permit/Waste Discharge Requirements for Short-Term Groundwater Discharges and *De Minimus* Wastewater Discharges	The LOP is consistent. The LOP would not replace or obviate any requirements of the General NPDES Permit/Waste Discharge Requirements for Short-Term Groundwater Discharges and *De Minimus* Wastewater Discharges. Some of the activities authorized under the LOP could involve dewatering and groundwater discharges and/or *de minimus* wastewater discharges, and would be expected to comply with the requirements of this General NPDES permit.
401 Water Quality Certification/WDRs	The LOP is consistent. The Corps would not apply for a 401 water quality certification or WDRs for this LOP, as the extent of potential impacts warrants a more detailed review by the RWQCB for the 401 certification and WDR. Thus, individual applicants would seek 401 water quality certification/WDRs from the RWQCB outside the SAMP/WSAA Process. Authorized activities would need to comply with conditions of the Corps LOP to control water quality, along with BMP requirements of other state and federal water quality regulations. Also, compensatory mitigation required by the LOP would offset potential impacts to levels that are less than significant. Through the 401 process, the RWQCB would likely require additional conditions to further minimize potential water quality impacts.
General Discharge Prohibitions	The LOP is consistent. This LOP would not authorize releases of toxic substances or metals, pesticides, PCBs, mercury compounds, radioactive substances, or other pollutants in excess of the California Code of Regulations, and in fact contains conditions to control discharges of pollutants into Receiving Waters, in addition to existing BMPs required by federal, state and local water quality regulations.
Antidegradation Policy	The LOP is consistent. The LOP would not significantly affect present or probable future beneficial uses and would not result in degraded water quality overall in the Watershed. Determination of the effects on beneficial uses and water quality degradation would be made on a case-by-case basis. If the LOP is issued outside aquatic resource integrity areas, degradation would not be substantial to the Watershed ecosystem overall;

Existing Policy/ Regulation	Consistency Determination
	impacts would be further minimized after coordination with the resource agencies. If the LOP is issued in aquatic resource integrity areas, there is low likelihood of degradation due to the small size of allowable permanent impacts (0.1 acre), temporary impacts would be for maintaining established structures only; no stream channelization or storm drain conversion in five major stream systems, and required consultation with the resource agencies. Implementation of various water quality conditions in the LOP and BMPs required by other federal/state water quality regulations would further minimize water quality impacts. Compensatory mitigation required by the LOP would also offset any impacts to levels that are less than significant.

Table 4-8. Consistency of Proposed WSAA Process with Existing Water Quality Policies/Regulation

Existing Policy/ Regulation	Consistency Determination
RWQCB Basin Plan Beneficial Uses/Water Quality Objectives	The WSAA Process is consistent. The WSAA Process would not replace or obviate any beneficial uses or water quality objectives of the Basin Plan (including the CTR). The WSAA Process will not result in significant impacts due to: 1) compensatory mitigation required as part of the WSAA Process that would help offset potential impacts to beneficial uses; and 2) WSAA Process conditions to help avoid, minimize and mitigate any potential significant impacts to water quality and beneficial uses. Nevertheless, permitted activity would be expected to be in conformance with the Basin Plan because of required consultation with the resource agencies and explicit authorization by the RWQCB.
TMDLs	The WSAA Process is consistent. The WSAA Process would not replace or obviate any requirements of the TMDLs. Dischargers in the Watershed would still be required to comply with requirements of TMDL implementation plans (including WDRs). Some authorized activities under the WSAA Process could result in reductions in sediment and nutrient loads via the conversion of agricultural land to urban development. Potential discharges of sediments, nutrients, bacteria, and other toxic substances would be controlled by conditions of the WSAA Process and BMP requirements of other state and federal water quality regulations.
NPDES Storm Water Permits/DAMP	The WSAA Process is consistent. The WSAA Process would not replace or obviate any requirements of the NPDES storm water permits (including MS4 Permits) or the DAMP/LIP. The WSAA Process contains conditions to help minimize impacts on water quality. The WSAA Process would not result in irrevocable commitments that prevent the proper implementation of required BMPs or adherence to effluent limitations under an NPDES permit. Public (municipal) and private activities authorized under the WSAA Process would remain subject to requirements of NPDES storm water permits and would still need to comply with requirements of the DAMP.
General NPDES Permit/Waste Discharge Requirements for Short-Term Groundwater Discharges and *De Minimus* Wastewater Discharges	The WSAA Process is consistent. The WSAA Process would not replace or obviate any requirements of the General NPDES Permit/Waste Discharge Requirements for Short-Term Groundwater Discharges and *De Minimus* Wastewater Discharges. Some of the activities authorized under the WSAA Process could involve dewatering and groundwater discharges and/or *de minimus* wastewater discharges, and would be expected to comply with the requirements of this General NPDES permit. WSAA Process conditions pertaining to water quality as well as compensatory mitigation required by the WSAA Process would offset any potential impacts to levels that are less than significant.
401 Water Quality Certification/WDRs	The WSAA Process is consistent. The WSAA Process would not replace or obviate the need for compliance under Section 401, which is tied to Section 404 compliance requirements. Authorized activities would be required to comply with conditions of the WSAA Process to control water quality, along with BMP requirements of other state and federal water quality regulations. Also, compensatory mitigation required by the WSAA Process would offset potential impacts to levels that are less than significant. Through the 401 process, the RWQCB would be expected to require additional conditions to further minimize potential impacts to water quality.
General Discharge Prohibitions	The WSAA Process is consistent. The WSAA Process would not authorize releases of toxic substances or metals, pesticides, PCBs, mercury compounds, radioactive substances, or other pollutants in excess of the California Code of Regulations, and in fact contains conditions to control discharges of pollutants into Receiving Waters, in addition to existing BMPs required by federal, state and local water quality regulations.

Existing Policy/ Regulation	Consistency Determination
Antidegradation Policy	The WSAA Process is consistent. The WSAA Process would not significantly affect present or probable future beneficial uses and will not result in degraded water quality overall in the Watershed. Determination of the effects on beneficial uses and degradation of water quality would be made on a case-by-case basis. If the WSAA Process is authorized in areas outside of aquatic resource integrity areas, the amount of higher quality resources subject to degradation would be small, and impacts would be further minimized after coordination with the resource agencies. If the WSAA Process is authorized within aquatic resource integrity areas, there is low likelihood of degradation due to the small size of allowable impacts and required consultation with the U.S. EPA, USFWS, the Department and the RWQCB. Implementation of various water quality conditions specified in the WSAA Process and BMPs required by other federal and state water quality regulations would further minimize impacts to water quality. Also, compensatory mitigation required by the WSAA Process would also offset any impacts to levels that are less than significant.

Programmatic Impact Analysis of Regulated Activities

The following programmatic impact analysis outlines potential impacts to water quality from authorization of temporary and permanent discharges of dredged or fill material to waters of the U.S. under the Corps RGP and LOP, as well as temporary and permanent impacts to the Department's jurisdiction under the WSAA Process. The regulated activities that would be permitted under the SAMP/WSAA Process are similar to those that would otherwise be permitted on a case-by-case basis under existing Section 404 and Section 1600 *et seq.* regulatory programs. As such, potential water quality impacts from these regulated activities would be expected to be similar in nature to those authorized under the existing Corps Section 404 and FGC Section 1600 *et seq*. regulatory programs. However, the SAMP/WSAA Process was established based on a holistic, Watershed-wide evaluation of aquatic resources from which permit conditions, compensatory mitigation and targeted restoration requirements were developed to help maintain and improve the Watershed ecosystem integrity (including water quality integrity) over the existing case-by-case permitting programs.

The SAMP/WSAA Process represents a comprehensive planning program for the location and extent of potential aquatic resource impacts, compensatory mitigation and restoration so that impacts to the Watershed as a whole are targeted to areas which would not substantially alter the baseline functions (i.e., areas of low ecological integrity), while areas of high integrity are avoided, maintained or improved to the extent practicable. Therefore, potential water quality impacts of regulated activities under the SAMP/WSAA Process would be expected to be similar or even less detrimental to the Watershed overall, in comparison to existing permitting programs, and in fact may ultimately result in an improvement in Watershed ecosystem integrity, including water quality and beneficial uses.

Utility Lines (Construction and Maintenance)

As with existing Section 404 and Section 1600 *et seq.* permitting programs, construction and maintenance of utility lines that would be permitted under the SAMP/WSAA Process could affect streambeds and/or result in discharges of dredged or fill material into jurisdictional waters. The discharges may result from required grading, excavation, boring, backfill, and/or bedding, temporary stream diversion, dewatering operations, temporary construction access roads and work areas.

Temporary Impacts

Construction and maintenance of utility lines can have temporary impacts on water quality primarily from uncontrolled erosion and sedimentation into Receiving Waters. Other effects may occur as a result of the following factors: a change in vegetation affecting water quality (e.g., by affecting pollutant removal capability, stream shading or bank stability); potential discharge of construction-related pollutants (e.g., concrete, waste oil solvents, debris, etc., spilled, leaked or transported via storm runoff into Receiving Waters); and discharge of dewatered groundwater that may contain high-levels of nitrates, phosphorous, selenium and other naturally occurring pollutants as well as pesticides from previous agricultural activities in the area.

Permanent Impacts

The vast majority of new utility lines in the Watershed would service new developments and, therefore, most potential impacts associated with new utility lines would be accounted for in the land development category, discussed later in this section. No new structures outside the extent of land development activities are expected to be built within or adjacent to riparian habitat.

Applicable General Conditions of the RGP, LOP, and WSAA Process

Utility projects would be subject to either the Corps RGP or LOP and the Department's WSAA Process. For those projects that cannot meet the requirements of RGP, LOP or Level 1 – 3 SAA templates of the WSAA Process, project applicants would need to file for a Corps SIP and Department individual streambed alteration agreement.

The Corps proposed Maintenance RGP authorizes discharges of dredged or fill materials, outside aquatic resource integrity areas, resulting in temporary impacts up to 0.5 acres of which only 0.1 acre may be vegetated with native riparian and/or wetland vegetation. This RGP contains several general conditions that address potential water quality impacts. These conditions are listed below and detailed in Table 2-4 of Section 2.1.2.3.

- Condition No. 5 Soil Erosion and Siltation;
- Condition No. 6 Equipment;
- Condition No. 7 Suitable Material;
- Condition No. 8 Management of Water Flows;
- Condition No. 10 Preventive Measures;
- Condition No. 11 Staging of Equipment; and
- Condition No. 17 Water Quality (401 Water Quality Certification).

The Corps would issue an LOP for temporary impacts within aquatic resource integrity areas only for: 1) the purpose of maintaining established structures (and permanent impacts up to 0.1 acres); 2) would not result in stream channelization/storm drain conversion for five major stream systems in aquatic resource integrity areas including Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek and Serrano Creek; 3) would only apply to projects with a small overall footprint; and 4) would not substantially alter a compensatory mitigation site. LOP conditions that address water quality are similar to those of the Maintenance RGP and include the following (see Table 2-3 of Section 2.1.2.3 for details)

- Condition No. 4 Soil Erosion and Siltation;
- Condition No. 5 Equipment;
- Condition No. 6 Suitable Material;
- Condition No. 7 Management of Water Flows;
- Condition No. 9 Preventive Measures;
- Condition No. 10 Staging of Equipment; and
- Condition No. 17 Water Quality (401 Water Quality Certification).

The Corps would issue LOPs for impacts to waters of the U.S. outside of aquatic resource integrity areas for applicants who can demonstrate impact avoidance and minimization was achieved to the extent practicable and resulting changes in low integrity areas would only have a minor effect on Watershed integrity. LOP procedures apply to those projects that do not qualify for the RGP. As part of the LOP process, an application must be submitted outlining the methods that would be used to avoid, minimize, or mitigate adverse impacts to water quality at the project site including BMPs to be used during project implementation to control siltation and erosion. A mitigation plan in accordance with the compensatory mitigation requirements of the LOP must also be prepared that effectively addresses unavoidable impacts to waters of the U.S. and the goal of no net loss of wetlands and functional integrity units.

The Department's WSAA Process also contains compensatory mitigation requirements and numerous conditions that would further help avoid, minimize and mitigate any significant or potentially significant water quality impacts. Applicable conditions contained in the SAA Templates Master Conditions List (of the WSAA Process) are as follows: (see Appendix D for full descriptions of the conditions):

- Condition No. 43 Exotic Vegetation Eradication Control;
- Condition No. 77 Directional Drilling;
- Condition Nos. 77 - 87 Fill and Spoils;
- Condition Nos. 88 - 95 Turbidity and Siltation; and
- Condition Nos. 96 - 122 Equipment Access, Pollution, Sedimentation and Litter.

Other Applicable Water Quality Regulations

As with existing case-by-case permitting, many utility line projects would be regulated under other agency water quality regulations. For example, construction activities involving one acre or more are required to prepare and implement a SWPPP in accordance with the SWRCB's General Permit for Storm Water Discharges associated with Construction Activity (Water Quality Order No. 99-08-DWQ) to minimize erosion and sediment and other potential pollutants in storm water and non-storm water discharges. This SWPPP must detail the erosion and sediment controls (BMPs) to be used during construction as well as proposed local post-construction erosion and sediment BMPs. In developing these control practices, a discharger must consider a full range of erosion and sediment controls such as detention basins, straw bale dikes, silt fences, earth dikes, brush barriers, velocity dissipation devices, drainage swales, check dams, subsurface drain, pipe slope drain, level spreaders, storm drain inlet protection, rock outlet protection, sediment traps, temporary sediment basins, or other controls.

The MS4 NPDES permit for Orange County (Order No. R8-2002-0010, currently under renewal) also requires implementation of erosion and sediment control BMPs for construction projects, as administered through Section 8 of the 2003 Orange County DAMP with BMP guidance provided in the Orange County Storm Water Program Construction Runoff Guidance Manual, 2004). Under the MS4 NPDES permit, each local jurisdiction must review erosion control and BMP implementation plans and conduct site inspections to ensure proper implementation, maintenance and effectiveness of BMPs.

The General Permit for short-term groundwater discharges and *de minimus* wastewater discharges to surface waters within the Watershed (Order No. R8-2004-0021) would help further control the transport of nutrients and other pollutants to Receiving Waters of the Watershed. Finally, the RWQCB would issue a 401 water quality certification or WDRs that would contain further requirements to control water quality from the permitted dredge and fill activity.

Impact Analysis Conclusion

Overall, construction and maintenance of utility lines would not be expected to violate any water quality standards, waste discharge requirements, established TMDLs, or otherwise substantially degrade water quality, nor create or contribute runoff that would provide substantial additional sources of polluted runoff given the aquatic resource impact restrictions and general conditions in the RGP, LOP WSAA Process and other agency regulatory permit programs that help control water quality. Further, under the SAMP/WSAA Process, the compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve water quality, including beneficial uses, overall in the Watershed in comparison to existing Corps and Department permitting programs. Therefore, potential impacts to water quality from construction and maintenance of utility lines under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are expected.

Level of Significance after Mitigation

No significant impacts.

Flood Control Facilities (Construction and Maintenance)

Drainage and flood control facilities are located within or near waters under the jurisdiction of the Corps and the Department. As under existing Corps/Department permitting programs, construction of these facilities that could be permitted under the SAMP/WSAA Process may involve soil excavation, removal, compaction, and sometimes concrete-lining and/or placement of bank stabilization measures in channels. Maintenance activities typically involve periodic dredging of accumulated sediments in channels, basins, outfall and intake structures, culverts and other structural features to maintain the design capacity and configuration of the flood control facility. Maintenance also involves periodic removal of vegetation to restore the design capacity. These activities may also require temporary stream diversion, dewatering operations, installation of temporary access roads and work areas.

Temporary Impacts

Flood control construction and maintenance can have temporary water quality impacts from erosion and sedimentation into Receiving Waters if not properly controlled. Other effects on water quality may occur as a result of the following factors: potential discharge of construction-related pollutants (e.g., concrete, waste oil, solvents, debris, etc) spilled, leaked or transported via storm runoff into Receiving Waters; and discharge from groundwater dewatering that may contain high levels of nitrates, phosphorous or pesticides from past agricultural activities as well as selenium and other naturally occurring pollutants in the area.

Permanent Impacts

Conversion of some or all sections of a natural, riparian drainage course into a concrete flood control structure could adversely affect a designated beneficial use, such as warm freshwater habitat (WARM), wildlife habitat (WILD), biological habitats of special significance (BIOL), rare, threatened or endangered species (RARE), if proper compensatory mitigation is not required and implemented. Other effects on water quality may occur from vegetation removal affecting stream shading or bank stability and pollutant removal capacity.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities. In addition, otherwise permissible activities cannot be issued via an LOP if they would: (a) substantially alter a compensatory mitigation site; (b) involve flood-control related conversions of soft-bottom channels to concrete-lined channels; or (c) result in the channelization of any major stream system such as Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek, and Serrano Creek. Such activities would require a review under an SIP process with additional NEPA/CEQA review and 404(b)(1) analysis.

Other Applicable Water Quality Regulations

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities. Additionally, under the Orange County municipal NPDES storm water program, the County and local cities implement drainage facility inspection and maintenance activities as part of the municipal facilities program requirements to ensure flood control facilities are inspected for non-storm water discharges and are regularly maintained to control accumulation of sediment and debris.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for flood control facilities.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are expected.

Level of Significance after Mitigation

No significant impacts.

Road Crossings including Bridges, and Culverts

Construction of road crossings including bridges and culverts across or within jurisdictional waters can be necessary to meet local and regional circulation needs associated with continual development of the Watershed. Bridges may span the watercourse or be constructed with one or more piers depending on bridge length. As under existing Corps/Department permitting programs, construction and routine maintenance of at-grade crossings, box culverts, pipe culverts, and bridges that would be permitted under the SAMP/WSAA Process may include placement of coffer dams, boring to install piers, dredging and fills for access, compacting and/or filling, vegetation management and removal, temporary stream diversion, dewatering operations, installation of temporary access roads and work areas, and paving operations.

Temporary Impacts

Temporary water quality impacts from construction of bridges and culverts may include discharges of sediment and debris (e.g., green waste, construction waste, paving materials), nitrates, phosphorous, and other naturally occurring pollutants (from dewatering operations) into Receiving Waters during short-term construction and maintenance periods.

Permanent Impacts

Construction of a new road crossing within or over a drainage course may require removal of riparian vegetation and habitat that may adversely affect a designated beneficial use, such as WARM, WILD, BIOL, RARE, if proper compensatory mitigation is not required and implemented. Other effects on water quality may occur from vegetation removal affecting stream shading or bank stability, and pollutant removal capacity.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Other Applicable Water Quality Regulations

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for road crossings.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are expected.

Level of Significance after Mitigation

No significant impacts.

Land Development for Residential, Commercial, Industrial, Institutional and Recreational Uses

Land development activities permitted under the SAMP/WSAA Process would include residential, commercial, industrial, institutional and recreational uses as well as attendant features. Land development would typically require vegetation clearing, grading and excavation for construction access, building pads, roads and culverts; boring and trenching for utility, sewer and storm drain installation; and paving operations. These activities may result in discharge of fill or encroachment into stream channels, wetlands or unlined agricultural drainages, redirecting of surface runoff into underground storm drains, temporary stream diversion and dewatering operations.

Temporary Impacts

Construction of residential, commercial, industrial, institutional and recreational use projects and attendant features can have temporary impacts on water quality primarily from uncontrolled erosion and sedimentation into Receiving Waters. Other effects may occur as a result of the following factors: a change in vegetation affecting water quality (e.g., by affecting pollutant removal capability, stream shading or bank stability); potential discharge of construction-related pollutants (e.g., concrete, waste oil

solvents, debris, etc., spilled, leaked or transported via storm runoff into Receiving Waters); and discharge of dewatered groundwater that may contain high-levels of nitrates, phosphorous, selenium and other naturally occurring pollutants as well as pesticides from previous agricultural activities in the area.

Permanent Impacts

Land development would result in increased impervious surfaces draining new sources and types of polluted runoff in the Watershed during wet and dry weather, if not properly controlled by BMPs. Typical pollutants in storm water and non-storm water discharges from developed areas include metals, petroleum hydrocarbons, sediment from construction activities, nutrients, pesticides, bacteria, and litter. Land development may result in discharges of dredged or fill material into drainage courses, some of which may contain riparian habitat. This could potentially affect a designated beneficial use, such as WARM, WILD, BIOL, and RARE, if proper compensatory mitigation is not required and implemented.

Most of the remaining new development in the Watershed would occur on lands previously used for agriculture. Nutrients, such as nitrate and phosphorus, sediment, and toxic constituents from pesticides can be present in high concentrations in agricultural runoff. Irrigation return flows from agricultural crops and from several commercial nurseries in the Watershed were identified in the nutrient TMDL as the predominate sources of nutrients to Newport Bay. In many cases, when agricultural areas are converted to residential, commercial and industrial uses, the nutrient and sediment load to downstream Receiving Waters is reduced.

Applicable General Conditions of LOP and WSAA Process

Under the proposed SAMP/WSAA Process, land development activities would be regulated under the LOP and WSAA Process. For those projects that cannot meet the requirements of the RGP or LOP, project applicants would need to file for a Corps SIP and Department individual SAA. The LOP and WSAA Process discussions under Category 1 (Utility Lines) are applicable for the land development category.

Other Applicable Water Quality Regulations

The discussion under Category 1 (Utility Lines) is applicable for land development activities. Also, the cities and county have adopted grading ordinances requiring construction practices that limit erosion and sedimentation. The ordinances typically require that project proponents prepare erosion control plans, obtain a grading permit and implement and maintain erosion and sediment control BMPs.

With regard to post-construction water quality, the 2003 Orange County DAMP and the LIPs developed by the municipalities within the Watershed require all new development and significant redevelopment projects to develop and implement a WQMP specifying BMPs that will control post-construction urban runoff and storm water pollution. The goal of the WQMP is to ensure that new development and significant redevelopment control pollutant loads and urban runoff flow rates and velocities with the use of appropriate site design, source control and treatment control BMPs. WQMPs for new development projects in the Watershed would be submitted to local jurisdictions for review and approval. Among the numerous required BMPs to be implemented, it is expected that the major new development projects in the Watershed would have water quality control basins, vegetated swales, hydrodynamic separation systems, or similar controls located on-site to treat runoff from the new development area, or would

participate in the RWQCB-approved regional treatment program (e.g. Natural Treatment System) that would reduce pollutant loading to San Diego Creek and Newport Bay.

Impact Analysis Conclusion

Whether permitted under the SAMP/WSAA Process or under current permitting procedures, new land development in the Watershed has the potential to significantly impact water quality of San Diego Creek and Newport Bay from uncontrolled erosion and sedimentation during construction and also potentially increase the discharge of pollutants in uncontrolled urban and storm water runoff including metals, petroleum hydrocarbons, nutrients, pesticides, bacteria, and litter. Since sediment, nutrient, fecal coliform and toxics TMDLs have been established for San Diego Creek and Newport Bay, the potential exists for a violation of a TMDL and the potential to provide a substantial increase in additional sources of polluted runoff. However, given the aquatic resource impact restrictions and general conditions in the LOP and WSAA Process as well as BMP requirements of other agency programs that help control pre- and post-construction water quality, the potential to substantially degrade water quality would be minimized. Many of the areas under current development and proposed new development in the Watershed has or will participate in the NTS regional treatment program designed to help reduce pollutant loading in the Watershed and help meet the TMDLs for San Diego Creek and Newport Bay.

Further, under the SAMP/WSAA Process, compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve water quality, including beneficial uses, overall in the Watershed in comparison to existing Corps and Department permitting programs. Implementation of the SAMP Strategic Mitigation Plan would target mitigation at sites that provide the greatest functional lift to the Watershed ecosystem integrity, which includes water quality integrity. The Mitigation Coordination Program would address long-term management of mitigation sites to ensure their long-term health and function in the Watershed. Therefore, given the proposed SAMP/WSAA Process and the water quality requirements of other agency programs, potential significant impacts to water quality from new land development would be reduced to less than significant.

Mitigation Measures

No mitigation measures are needed since potential significant impacts to water quality are expected to be reduced to less than significant with requirements of the SAMP/WSAA Process and other agency programs to control water quality.

Level of Significance after Mitigation

No significant impacts.

Stormwater Treatment and Management Facilities

Stormwater treatment and management facilities, such as constructed treatment wetlands, water quality treatment basins and infiltration basins, capture urban runoff and smaller storm water flows for treatment and subsequent return to surface water or infiltration to groundwater. As under existing Corps/Department permitting programs, construction of such facilities under the SAMP/WSAA Process would include dredging, trenching, temporary stream diversion, dewatering operations, channel desilting, grading and installation of temporary access roads and work areas. Maintenance may involve vegetation management and removal, and dredging of accumulated sediments and potentially contaminated soil.

Temporary Impacts

Construction of storm water management and treatment facilities may temporarily increase the amount of sediment from dredging and grading activities as well as nitrates, phosphorous and selenium from dewatering operations that could be released into Receiving Waters, if not properly controlled. Other potential impacts may include potential discharge of construction-related pollutants (e.g., concrete, waste oil solvents, debris, etc) spilled, leaked or transported via storm runoff into Receiving Waters. Maintenance involving dredging of potentially contaminated soil could potentially release pollutants in storm water discharges if not properly controlled in accordance with state and/or locally approved operation and maintenance procedures.

Permanent Impacts

Stormwater treatment facilities, such as constructed treatment wetlands and water quality treatment basins, capture urban runoff and storm water flows for treatment and subsequent return to surface water or infiltration to groundwater. Since these projects provide treatment of runoff, they have beneficial effects on Receiving Water quality over the long-term. Constructed treatment wetlands such as the proposed NTS system are expected to help meet TMDLs in the Watershed including nutrients, pathogens, total copper, lead, zinc and selenium.

Potential impacts to groundwater quality would be minimized due to treatment control BMP siting requirements of the DAMP/LIPs that impose restrictions on the use of infiltration BMPs to protect groundwater quality (DAMP Section 7.II – 3.3.4). Also, infiltration of storm water to groundwater can be prevented as necessary either by the presence of dense clayey soils or by use of liners in constructed wetlands or water quality treatment basins (BonTerra Consulting, 2004).

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Other Applicable Water Quality Regulations

The discussion under Category 1 (Utility Lines) is applicable for storm water treatment and management facilities.

Impact Analysis Conclusion

Overall, construction and maintenance of storm water treatment and management facilities in the Watershed would not be expected to violate any water quality standards, waste discharge requirements or established TMDLs, or otherwise substantially degrade water quality, nor create or contribute runoff that would provide substantial additional sources of polluted runoff given the aquatic resource impact restrictions and general conditions in the RGP, LOP, and Level 1 – 3 SAA templates of the WSAA Process as well as other agency regulatory permit programs that help control pre- and post-construction water quality. Proper operation of storm water management and treatment facilities would in fact provide beneficial effects to the impaired water bodies (San Diego Creek and Newport Bay) by reducing pollutant loads in urban and storm runoff that drains to these Receiving Waters.

Further, under the SAMP/WSAA Process, compensatory mitigation and targeted restoration requirements would be expected to maintain and ultimately improve water quality, including beneficial uses, overall in the Watershed in comparison to existing Corps and Department permitting programs. Therefore, potential impacts to water quality from construction and maintenance of storm water treatment and management facilities under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are expected.

Level of Significance after Mitigation

No significant impacts.

Habitat Restoration and Enhancement Projects

Habitat restoration projects are typically located in jurisdictional areas to fulfill their functions in restoring and/or improving wetland/riparian habitat to increase wildlife habitat and hydrologic functions and values. As under existing Corps/Department permitting programs, construction and maintenance of habitat restoration and enhancement projects may include clearing and grading, channel reconfiguration, installation of check dam features, vegetation management and removal, sediment removal, temporary stream diversion, dewatering operations, and installation of temporary access roads and work areas.

Temporary Impacts

During construction of habitat restoration projects, temporary sedimentation impacts to Receiving Water quality may occur due to potential clearing and grading activities, if not properly controlled. Stream diversion and dewatering operations during both construction and maintenance can disrupt the erosion/sedimentation balance of the local system. These activities may also increase the amount of sediment and debris (e.g., green waste, construction waste) nitrates, phosphorous and selenium (from dewatering operations) released into the Watershed if proper control measures are not implemented.

Permanent Impacts

The purpose of habitat restoration and enhancement projects is to restore and/or improve wetland/riparian habitat and hydrologic functions and values. Although not specifically designed for water quality treatment, these projects can help filter pollutants in urban and storm runoff, thereby providing a beneficial effect on water quality. Also, the restoration and/or enhancement of riparian habitat can help improve beneficial uses in the Watershed such as WARM, WILD, BIOL, and RARE.

Applicable General Conditions of RGP, LOP, and WSAA Process

The discussion of applicable conditions under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Other Applicable Water Quality Regulations

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Impact Analysis Conclusion

The discussion under Category 1 (Utility Lines) is applicable for habitat restoration and enhancement projects.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are expected.

Level of Significance after Mitigation

No significant impacts.

Fire Abatement and Vegetative Fuel Management Activities

Fire abatement and vegetative fuel management activities that could be permitted under the SAMP/WSAA Process may involve thinning of vegetation, clearing of brush, and installing construction access roads and work areas. This work may occur within or adjacent to waters that are under the jurisdiction of the Corps and the Department.

Temporary Impacts

Water quality impacts from the vegetation clearing and thinning for fire abatement and vegetative fuel management purposes would be minor and include some short-term disruption of erosion and sedimentation characteristics of disturbed areas. Some erosion and sedimentation into nearby riparian areas may occur during work activities.

Permanent Impacts

No permanent impacts on water quality would be expected.

Applicable General Conditions of WSAA Process

Under the proposed SAMP/WSAA Process, fire abatement and vegetative fuel management activities would be regulated under the WSAA Process only. In many cases, this activity would not be regulated by the Corps since the Corps does not regulate the removal of vegetation with hand tools. However, the Department has no such restriction and therefore, the discussion of applicable Level 1 – 3 SAA template conditions (of the WSAA Process) under Category 1 (Utility Lines) is applicable for fire abatement and vegetative fuel management activities.

Impact Analysis Conclusion

Overall, fire abatement and vegetative fuel management activities in the Watershed would not be expected to violate any water quality standards, waste discharge requirements or established TMDLs, or otherwise substantially degrade water quality, nor create or contribute runoff that would provide substantial additional sources of polluted runoff given the aquatic resource impact restrictions and general conditions in the WSAA Process. Therefore, potential impacts to water quality from these activities under the proposed SAMP/WSAA Process would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant impacts to water quality are expected.

Level of Significance after Mitigation

No significant impacts.

4.6 OTHER RESOURCES AND ISSUES

In evaluating the SAMP/WSAA Process, the Corps must balance the benefit that may be reasonably expected to accrue from permitted actions under the SAMP/WSAA Process against their reasonably foreseeable detriments. Therefore, additional "public interest review factors" have been considered in establishing the SAMP/WSAA Process. These factors include cultural resources, geology/soils, land use, transportation/circulation, air quality, noise, visual resources, recreation, socioeconomics, public health and safety, water supply and conservation, agricultural resources and floodplain values. As discussed earlier in Section 4.1.1, permitting of regulated activities under the SAMP/WSAA Process would not, in most cases, produce direct impacts to these public interest review factors since these factors generally cover non-jurisdictional resources in the greater Watershed area and would occur later in time than the direct effect. However, the Corps/Department permitting actions may indirectly affect these resources of the greater Watershed. These factors would likely be evaluated in more detail in other CEQA/NEPA documents required as part of the project approval process of other regulatory and/or land use agencies.

4.6.1 Agricultural Resources

Significance Thresholds

In determining whether impacts to agricultural resources are significant, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Department of Conservation as an optional model to use in assessing impacts on agriculture and farmland. For the purpose of this analysis, the SAMP/WSAA Process may be determined to have a significant agricultural resource impact if it would:

(a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland), as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use;

(b) Conflict with existing zoning for agricultural use, or a Williamson Act contract; or

(c) Involve other changes in the existing environment which due to their location or nature, could result in conversion of Farmland, to non-agricultural use.

The proposed SAMP/WSAA Process is a watershed-specific permitting program for the issuance of Section 404 permits and Section 1600 *et seq*. streambed alteration agreements based on an assessment of the functions and values of aquatic resources in the Watershed. Under the proposed SAMP/WSAA Process, the Corps and the Department would permit temporary and permanent impacts to Corps and Department's jurisdictional waters for seven categories of activities including land development, construction of bridges, and public facilities/utilities. Adherence to the general conditions of the SAMP RGP, LOP, and Level 1 – 3 SAA templates (of the WSAA Process) would be required along with the SAMP mitigation framework. The regulated activities that would be permitted under the SAMP/WSAA Process are similar to those that would otherwise be permitted on a case-by-case basis under existing Section 404 and Section 1600 *et seq.* regulatory programs. As such, any potential agricultural resource impacts from these regulated activities would be expected to be similar in nature to those authorized under the existing Corps Section 404 and FGC Section 1600 *et seq*. regulatory programs.

Direct Impacts

Implementation of the SAMP/WSAA Process would not result in direct adverse impacts to local agricultural resources in the Watershed, as the SAMP/WSAA Process is a regulatory system that authorizes discharges of dredged and fill materials into Corps and Department jurisdictional waters.

Indirect Impacts

Authorization of certain regulated activities under the SAMP/WSAA Process such as new land development, could indirectly affect agricultural resources, if the permit allows conversion of Farmland, Unique Farmland, or Farmland of Statewide Importance to non-agricultural use or it conflicts with existing zoning for agricultural use or a Williamson Act contract. The undeveloped land in the Watershed that is proposed for new development is no longer designated agricultural preserve under the Williamson Act since contracts were not renewed. Thus, no significant indirect impacts to agricultural preserves would be expected from permitting of land development activities under the proposed SAMP/WSAA Process. Most of the unique farmlands and farmlands of statewide importance are located in the southern foothills of the Santiago Hills and along the northern foothills of the San Joaquin Hills. Conversion of these or any other agricultural areas would be subject to the regulatory approval of the local municipality, and thus subject to CEQA and/or NEPA review outside of this document. Land development would be subject to the policies and objectives in the Resources Element of the Orange County General Plan as well as the General Plans for some jurisdictions within the Watershed (e.g., the cities of Orange, Irvine, and Tustin). These General Plans contain objectives and policies that promote the wise management of existing agricultural lands while still recognizing that such uses are temporary.

For example, one objective from the City of Irvine General Plan is *Objective L-10: Permanent Agriculture*, which reads as follows: "Encourage the maintenance of agriculture in undeveloped areas of the City until the time of development, and in areas not available for development." The City has six policies to support its objectives, including "Encourage and support federal and state legislation proposed for the purpose of preservation of agricultural lands which are compatible with the City's goals and objectives" and "Allow for conversion of interim and permanent agricultural uses to development to provide land for the construction of housing units consistent with the Land Use and Housing Elements".

Implementation of other regulated activities besides land development under the proposed SAMP/WSAA Process would be expected to have minimal or no impact on agricultural resources.

Impact Analysis Conclusion

Implementation of the SAMP/WSAA Process would not directly convert farmlands listed as prime, unique or of statewide importance to non-agricultural uses; or conflict with existing zoning for agricultural use, or a Williamson Act contract; or involve other changes in the existing environment which due to their location or nature could result in the conversion of Farmland to non-agricultural use. Indirect effects to agricultural resources from Corps/Department permit authorization under the SAMP/WSAA Process would be fully evaluated in CEQA documents by the local land use agency and subject to the General Plan policies, and zoning ordinances. Therefore, implementation of the SAMP/WSAA Process would not result in significant impacts to agricultural resources.

Mitigation Measures

No mitigation measures are need since no significant agricultural resource impacts are identified.

Level of Significance After Mitigation

No significant impacts.

4.6.2 Air Quality

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. The following standards of significance are based on Appendix G of the CEQA Guidelines. For the purposes of this analysis, the proposed SAMP/WSAA Process would be considered to have a significant air quality impact if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

In addition to the criteria established by CEQA, the SCAQMD has established specific significance thresholds for the areas within their jurisdiction, as criteria to determine whether or not air quality impacts from implementing proposed projects are considered to be significant. If project-specific emissions exceed any of the criteria in Table 4-9 they would be considered significant. All feasible mitigation measures would be identified and implemented to reduce significant impacts to the maximum extent feasible.

Table 4-9. SCAQMD Air Quality Significance Thresholds

Mass Daily Thresholds		
Pollutant	**Construction**	**Operation**
NOx	100 lbs/day	55 lbs/day
VOC	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
Sox	150 lbs/day	150 lbs/day
CO	550 lbs/day	550 lbs/day
Lead	3 lbs/day	3 lbs/day
Toxic Air Contaminants (TACs) and Odor Thresholds		
TACs (including carcinogens and non-carcinogens)	Maximum Incremental Cancer Risk ≥ 10 in 1 million Hazard Index ≥ 1.0 (project increment) Hazard Index ≥ 3.0 (facility-wide)	
Odor	Project creates an odor nuisance pursuant to SCAQMD Rule 402	
Ambient Air Quality for Criteria Pollutants [1]		
NO2 1-hour average annual average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 0.25 ppm (state) 0.053 ppm (federal)	
PM10 24-hour average annual geometric average annual arithmetic mean	10.4 μg/m^3 (recommended for construction) [2] 2.5 μg/m^3 (operation) 1.0 μg/m^3 20 μg/m^3	
Sulfate 24-hour average	1 ug/m^3	
CO 1-hour average 8-hour average	SCAQMD is in attainment; project is significant if it causes or contributes to an exceedance of the following attainment standards: 20 ppm (state) 9.0 ppm (state/federal)	

[1] Ambient air quality thresholds for criteria pollutants based on SCAQMD Rule 1303, Table A-2 unless otherwise stated.
[2] Ambient air quality threshold based on SCAQMD Rule 403. lbs/day = pounds per day; ppm = parts per million; ug/m^3 = microgram per cubic meter

As stated in Section 4.6.2, no scientifically verified or regulatory significance thresholds have been established for GHG emissions. Nonetheless, it is recognized that activities associated with construction and development may contribute to cumulative GHG emissions.

Direct Impacts

Implementation of the SAMP/WSAA Process would not result in direct adverse impacts to air quality in the Watershed, as the SAMP/WSAA Process is a regulatory program that authorizes discharges of dredged and fill materials to jurisdictional waters. The SAMP/WSAA Process itself does not directly generate emissions.

Indirect Impacts

Air quality impacts are typically associated with either construction or operational emissions associated with the proposed project. Construction emissions occur during grubbing, site grading, and construction of buildings and infrastructure. Construction emissions are temporary and only occur for a short-duration.

Operational emissions include on-site stationary emissions from operating equipment or processes and off-site mobile emissions from worker vehicles and trucks delivering and picking up products.

The proposed SAMP/WSAA Process requires applicants to seek permit/agreement approvals for construction and/or maintenance of projects in jurisdictional areas that could potentially generate emissions (both short-term construction and long-term operational). The SAMP/WSAA Process itself does not directly generate emissions. The projects that would be initiated and implemented once approvals are obtained through the SAMP/WSAA Process may ultimately be responsible for generating short-term and long-term emissions (e.g. construction activities and operational emissions). The types of activities within the Corps scope of analysis that would be authorized under the RGP, LOP procedures, WSAA Process would be temporary in nature and/or confined to the immediate project vicinity. Each project would be evaluated on an individual basis through a CEQA and/or NEPA review process, independent of the Corps/Department review and permit process, to determine the amount of emissions associated with the project. If these emissions exceed the significance criteria then feasible mitigation measures shall be implemented to reduce the impacts to a level considered less than significant. In addition, each project would be required to examine the potential for cumulative air quality impacts on a local and regional basis.

Indirectly, the regulated activities permitted under the SAMP/WSAA Process would result in short-term construction activities that would potentially generate exhaust emissions from diesel equipment and fugitive dust from grading activities. An assessment of potential construction-related and mobile source emissions for individual projects cannot be undertaken at this time, because the variables associated with calculating emissions requires knowing details of project construction. This information can only be known at the time a specific project is proposed. Standard mitigation measures promulgated by the SCAQMD, imposed at the local approval level, for dust control and diesel emissions can reduce these potential impacts to a less than significant level.

It should be noted that some permits/agreements issued under the proposed SAMP/WSAA Process would result in projects creating long-term air quality impacts such as increased vehicle traffic associated with new land development, emissions from flood control, bridge, utility equipment, and other types of maintenance activities. Post-construction activities, new stationary sources from expansion, and indirect mobile source emissions associated with future projects are considered to be outside the Corps and Department's scope of analysis. The post-construction, operational phase of future projects may result in project occupancy and operation-associated air pollutant emissions generated by both consumption of electricity and natural gas and by the operation of on-site vehicles. The Corps and the Department must depend on the project-specific CEQA process to mitigate for post-construction stationary source and indirect mobile source emissions of criteria pollutants. An assessment of potential long-term air quality impacts requires project-specific information such as the projected increase in vehicle traffic. This type of information would be available once a specific project is proposed. Mitigation measures to reduce any potential impacts would be imposed at the local approval level.

Regulated activities that generate increases in fossil fuel consumption (e.g., combustion of gasoline, diesel, etc.), have been found to contribute to the increase in atmospheric levels of greenhouse gas (GHG) emissions. The indirect impacts from implementation of regulated activities under the proposed

SAMP/WSAA Process would be an incremental contribution of construction-related vehicle and equipment emissions and mobile source emissions. The GHGs primarily associated with emissions from the activities in the Watershed are carbon dioxide, methane and nitrous oxide.

Carbon dioxide is an odorless, colorless natural GHG. Natural sources include the decomposition of dead organic matter; respiration of bacteria, plants, animals and fungus; evaporation from oceans; and volcanic outgassing. Anthropogenic (man-made) sources of carbon dioxide are from burning coal, oil, natural gas, and wood. For the Watershed, the primary source of carbon dioxide is oil from construction equipment and mobile source (vehicle) emissions. Nitrous oxide is a colorless GHG and is produced by microbial processes in soil and water, including those reactions which occur in fertilizer containing nitrogen. In addition to agricultural sources, some industrial processes such as fossil fuel-fired power plants (not present in this Watershed) and vehicle emissions also contribute to its atmospheric load. Methane is a flammable gas and is the main component of natural gas. A natural source of methane is from the anaerobic decay of organic matter. Other sources are from landfills and fermentation of manure and cattle.

The short-term construction emissions and long-term mobile source emissions would be expected to occur in this Watershed with or without the proposed SAMP/WSAA Process. An assessment of GHG emissions associated with the regulated activities cannot be undertaken, because project-level details are unknown at this time, and any attempt to quantify GHG emissions from future regulated activities would be speculative. Individual projects to be permitted under the SAMP/WSAA Process will undergo project-specific CEQA or NEPA evaluation at the local level, and as appropriate, will include a more detailed evaluation of GHG emissions quantifying the extent of impacts, including GHG emissions, and setting forth specific mitigation appropriate to that project.

Applicable General Condition of the LOP

The Corps, as part of their General Conformity Review determined that in general, construction and maintenance activities regulated under the RGP and LOP would result in a *de minimus* increase in direct mobile source and stationary source emissions (See also Section 10.1.5). The Corps does acknowledge that certain projects that would be eligible for authorization under the LOP could have direct mobile source emissions and/or stationary source (e.g. fugitive dust) emissions in exceedance of the *de minimus* levels, or could have activities resulting in indirect mobile source or stationary source emissions within the continuing authority of the Corps. However, it is expected that many, if not all of the projects with long-term indirect impacts from mobile source and stationary source emissions would be included in the baseline inventory of the applicable State Implementation Plan (SIP). Nevertheless, the Corps has proposed the following LOP condition (Condition #21) to minimize potential adverse affects on air quality:

"No activity is authorized that causes or contributes to any new violation of National Ambient Air Quality Standards, increases the frequency or severity of any existing violation of such standards, or delays timely attainment of any such standard or interim emission reductions, as described in the applicable California State Implementation Plan for the South Coast Air Basin. As part of the Corps application package, the applicant shall submit an air quality emission and impact analysis for the proposed activity if the project would result in long-term or permanent stationary (point or area) source or indirect mobile source emissions, or if the proposed activity would result in area source and direct mobile source emissions that exceed the annual de minimus emissions thresholds for any criteria air pollutant or its precursors."

Impact Analysis Conclusion

Regulated activities permitted under the SAMP/WSAA Process would result in potential short-term and long-term impacts on air quality from construction vehicle/equipment emissions and operational emissions. In most cases, projects permitted under the RGP and LOP would result in only *de minimus* increases in emissions but would still be required to submit an air quality emissions and impact analysis report for any project that would result in emissions that exceed the annual *de minimus* emissions thresholds for any criteria air pollutant or its precursors. Additionally, many projects would be evaluated on an individual basis through a CEQA and/or NEPA review process, independent of the Corps/Department SAMP/WSAA Process review process. During this separate CEQA/NEPA review process, the amount of emissions generated by a project would be determined, and if these emissions exceed the significance criteria, feasible mitigation measures would be required to reduce air quality impacts to a level considered to be less than significant.

Mitigation Measures

It is generally beyond the Corps and the Department's statutory limits of authority to require the implementation of mitigation measures for post-construction, operational air quality impacts of a built project. During the project approval process, independent of the SAMP/WSAA Process, local land use authorities or other regulatory agencies can require a variety of air quality mitigation measures depending on the type and extent of project impacts. Example mitigation measures include but are not limited to:

To control PM10 during construction:

- Water excavated soil piles hourly or cover with temporary coverings;
- Maintain equipment and vehicle engines in good condition and in proper tune;
- Cease grading operations during periods when winds exceed 25 mph;
- Moisten excavated soil prior to loading on to trucks;
- Cover all loads of dirt leaving the site or leave sufficient freeboard capacity in truck to prevent fugitive dust emissions en route to disposal site;
- Replace ground cover on construction sites when it is determined that the site will be undisturbed for lengthy periods; and
- Sweep streets at the end of the day if substantial visible soil material is carried over to adjacent streets.

To reduce diesel and other vehicle emissions:

- Turn off equipment when not in use for more than 5 minutes;
- Schedule construction activities that affect traffic flow on adjoining streets to off-peak hours to the extent possible;
- Ensure that whenever feasible, commercial truck traffic is diverted from local roadways to off-peak periods;
- Install electric-powered vehicle power supply units in residential and commercial units; and
- Implement appropriate transportation control measures recommended by SCAQMD and SCAG.

The types of mitigation measures to control GHG emissions, particularly carbon dioxide emissions from land development activities include:

- Development should be consistent with "smart growth" principles including locating housing and jobs so as to reduce vehicle miles traveled;
- Development should include a transportation demand management program that incorporates features to promote the use of public transit, and accommodates bicycle and pedestrian pathways;
- New projects should be designed to reduce energy consumption and promote energy efficiency through the use of energy saving features such as lighting, insulation, HVAC technology, windows, heating technology, roofing and other building materials;
- New development shall ensure that the layout of the site and building orientation make the best use of natural light, heating, and cooling potential;
- New development shall incorporate landscaping materials, including trees, to reduce heat associated with asphalt and to provide shade;
- New development shall include a plan to recycle construction materials and shall include features to promote on-site recycling; and
- During construction, diesel vehicles shall be low diesel emission vehicles or use cleaner fuel such as low sulfur diesel, or shall include retrofitting of older equipment with emission control devices.

These types of mitigation measures could be adopted by the local agencies in approving individual projects.

Level of Significance After Mitigation

No significant direct impacts from individual projects are known at this time. Although the potential for indirect cumulative impacts cannot be conclusively determined at this time, the potential for future projects to contribute to the effects of global GHG emissions may be considered cumulatively significant and unavoidable.

4.6.3 Cultural Resources

Significance Thresholds

The National Historic Preservation Act (NHPA) of 1966 established the Advisory Council on Historic Preservation and State Historic Preservation Officers (SHPO) to assist federal agencies to consider the effects of an action on cultural resources (prehistoric and historic resources) in or eligible for listing in the National Register of Historic Places (NRHP). The administering agency, the Advisory Council on Historic Preservation, has authored regulations implementing Section 106 located in 36 Code of Federal Regulations (CFR) Part 800, *Protection of Historic Properties* (revised January 11, 2001).

The Corps must consider the potential direct and indirect effects of a project on historic properties within the area of potential effect (APE) to the degree the impacts are related to the Corps regulatory authority. Under the Section 106 requirements, for each permit action, the Corps evaluates archeological data about the potential for historic properties to be located within the APE for significance to determine if archeological resources are present and if they are eligible for listing in the national register. The Corps must consider all historic sites potentially eligible at first under Section 106, until they are determined eligible or ineligible. Then, if they are eligible for the National Register and the Corps determines an effect would occur as a result of the permit action, then appropriate mitigation is identified through Section 106 consultation with the SHPO.

In accordance with consultation under Section 106 of the NHPA the following procedures are required for a permit action to demonstrate NHPA compliance if the action has the potential to affect historic properties: (1) identification of significant resources that may be affected by an undertaking; (2) assessment of project impacts on those resources; and (3) development and implementation of mitigation measures to offset or eliminate adverse impacts. The Section 106 review includes consultation with SHPO, interested Native American Indian tribes, local governments, and other interested parties.

Under CEQA Section 15064.5, a project potentially would have significant impacts if it would cause substantial adverse change in the significance of:

1. An historical resource, i.e. a cultural resource eligible to the California Register of Historic Resources (CRHR);
2. An archaeological resource (defined as a unique archaeological resource which does not meet CRHR criteria);
3. A unique paleontological resource or unique geologic feature (i.e. would directly or indirectly destroy a site);
4. Human remains (i.e. would disturb or destroy burials); or
5. A non-unique archaeological or paleontological resource is given no further consideration, other than the simple recording of its existence by the lead agency.

A property that is eligible for the NRHP is also eligible for the CRHR. Criteria for listing historical resources in the CRHR are consistent with those developed by the National Park Service (NPS) for listing historical resources in the NRHP, but have been modified for state use in order to include a range of historical resources which better reflect the history of California. Criteria applied to evaluate properties for the NRHP are listed in the Code of Federal Regulations Title 36 Part 60. Criteria applied to evaluate properties for the CRHP are listed in the California Resources Code Chapter 14 part 4852.

Direct Impacts

The SAMP/WSAA Process would authorize temporary and permanent discharges of dredged or fill material into waters of the U.S. under the Corps RGP and LOP, as well as temporary and permanent impacts to the Department's jurisdiction under the WSAA Process. Activities in the areas under Corps and Department jurisdiction could directly impact cultural resources. The potential for such impacts and mitigation are covered in the discussion below.

Indirect Impacts

The seven categories of regulated activities that could be authorized under the proposed SAMP/WSAA Process may involve land disturbance and therefore could directly and/or indirectly affect unknown cultural resources. However, the Watershed is a mostly disturbed landscape and it is not expected that construction and maintenance activities permitted under the SAMP/WSAA Process would result in adverse effects to significant historic properties. Within the urbanized portions of the Watershed, preliminary determinations indicate that all but one of the areas of the Watershed are without archaeological or historical sites warranting protection by the NHPA. It was determined that one archaeological site does exist within the Watershed that could have been affected by an anticipated project, but that project has since undergone evaluation and was permitted under an SIP and individual SBAA. Appropriate mitigation measures were undertaken and this project is currently under construction. Implementation of regulated activities under the SAMP/WSAA Process would not impact the identified resource and implementation of the SAMP/WSAA Process would not require Section 106 consultation for that site.

Regulations stipulate that when the lead agency finds that either no historic properties are present, or historic properties are present but the undertaking would have no effect upon them, then the lead agency shall make a "no historic properties affected" determination (36 CFR Part 800.4[d]). If the lead agency finds that there are historic properties which may be affected by the undertaking, the lead agency would make a "historic properties affected" determination. Specifically, if archaeological resources are discovered on a particular project site requiring a Corps authorization and within the Corps APE, the Corps, in coordination with the SHPO, would evaluate the cultural resource for eligibility for listing in the NRHP pursuant to the NHPA.

Applicable Requirements and Conditions of the Corps RGP and LOP

As part of the LOP application, the Corps requires evidence of compliance with Section 106 of NHPA. Once the application information is received, the Corps would coordinate with the SHPO to ensure compliance with NHPA. Additionally, both the LOP and RGP contain the following General Condition (Condition No. 20) to ensure compliance with NHPA prior to any permit authorization:

> *"No activity that may affect historic properties listed, or eligible for listing, in the NRHP is authorized until the Corps has complied with the NHPA. If the proposed activity may affect any historic properties listed, determined to be eligible, or which the prospective permitttee has reason to believe may be eligible for listing on the NRHP, and shall not begin the activity until notified by the Corps that the requirements of the NHPA have been satisfied and that the activity is authorized. Information on the location and existence of historic resources can be obtained from the SHPO and the NRHP".*

Other Applicable Conditions

Although the local jurisdictions within the Watershed are nearly built-out and the majority of the land within the jurisdictions has been disturbed, there still remains the possibility for development and redevelopment of existing land uses at some time in the future. The goals, policies and implementation measures in the General Plans for the local jurisdictions generally include provisions for the identification and protection of any archaeological or paleontological resource in the event any are discovered in the future. For example, the City of Laguna Hills (1994) has developed a strategy and a goal for recognizing archaeological and paleontological sites as nonrenewable resources. In particular, the City's goal indicates that site-specific studies to assess impacts and make recommendations for appropriate mitigation would be required for new projects developed in areas known to have archaeological and/or paleontological resources.

Impact Analysis Conclusion

Implementation of the SAMP/WSAA Process would not cause substantial adverse change in the significance of a historical property; an archaeological resource; a unique paleontological resource; or human remains in the Watershed, as the SAMP/WSAA Process is a regulatory system that authorizes discharges of dredged and fill materials in jurisdictional waters. Future impacts or demands on cultural resources cannot be specifically determined in this programmatic document. However, the Corps RGP and LOP conditions would ensure all requirements of NHPA are satisfied prior to any permit approval, thus reducing any potential cultural resource impacts to below a level of significance. Further, individual projects covered under the SAMP/WSAA Process would undergo separate CEQA and/or NEPA review, at which time potential impacts to unknown cultural resources and potential impacts on existing cultural resources would be determined, along with appropriate mitigation measures. Thus, implementation of the SAMP/WSAA Process is not expected to result in significant impacts to cultural resources.

Mitigation Measures

The following are example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce project-specific cultural resources impacts to less than significant. These are examples and do not represent an exhaustive list.

- Prior to project approval, a detailed archaeological report shall be prepared to address the potential for encountering archaeological resources at a project site. The report will provide recommendations to prevent degradation of archaeological resources such as site avoidance and data recovery.
- In the event that buried cultural materials or deposits are found during construction, work in that vicinity shall be stopped immediately until an assessment can be made by a certified archaeologist.
- Should human remains be encountered, work in the vicinity shall be halted and the County Coroner shall be notified immediately. If the remains are determined to be historic or prehistoric or Native American, the Coroner shall contact the SHPO and the Native American Heritage Commission.

Level of Significance After Mitigation

No significant impacts.

4.6.4 Floodplain Values

Floodplain impacts are discussed in Section 4.4 Hydrology, Erosion and Sedimentation.

4.6.5 Geology/Soils

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts to geologic resources/soils may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant impact on geologic resources/soils if it would:

- Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving;
- Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map issued by the State Geologist for the area or based on other substantial evidence of a known fault (refer to Division of Mines and Geology Special Publication 42) resulting in:
    - Strong seismic ground shaking;
    - Seismic-related ground failure, including liquefaction;
    - Landslides; or
    - Result in substantial soil erosion or the loss of topsoil.
- Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on- or off-site landslide, lateral spreading, subsidence, liquefaction or collapse;
- Be located on expansive soil, as defined in Table 18-1-B of the Uniform Building Code (1994), creating substantial risks to life or property; or
- Have soils incapable of adequately supporting the use of septic tanks or alternative waste water disposal systems where sewers are not available for the disposal of waste water.

Direct Impacts

The SAMP/WSAA Process would authorize temporary and permanent discharges of dredged or fill material into waters of the U.S. under the Corps RGP and LOP, as well as temporary and permanent impacts to the Department's jurisdiction under the WSAA Process. This new regulatory process would not directly involve construction of habitable structures. Accordingly, the SAMP/WSAA Process would not directly result in exposure of people to potential strong seismic ground shaking, landslides, or liquefaction.

Indirect Impacts

The permitting processes of the SAMP/WSAA Process would allow for new development and infrastructure projects in accordance with the requirements and general conditions of the SAMP/WSAA Process. Therefore, as with all new development in seismically active Southern California, future development permitted under the SAMP/WSAA Process (as under existing case-by-case permitting) has

the potential to expose people and structures to strong seismic ground shaking in the event a major earthquake occurs along any one of the active faults in the region, or landslides from development on hillsides. As with existing case-by-case permitting individual development and infrastructure projects would be required to undergo separate CEQA review as part of the local agency approval process to address seismic issues in project designs. Future development would be regulated under requirements of the California Building Code, Alquist Priolo Special Studies Zone Act, City/County land use policies and zoning, and plan-specific mitigation measures. Additional geotechnical studies would be performed to develop final seismic design recommendations. Future projects would be constructed to meet seismic design requirements for ground shaking specified in the project-specific design documents. Proper design and construction of the project components would reduce impacts from ground shaking. Therefore, potential indirect impacts from strong seismic ground shaking and landslides for activities regulated under the SAMP/WSAA Process permitting procedures would be considered less than significant.

Permitting of development and infrastructure in accordance with the proposed SAMP/WSAA Process would result in grading, excavation, boring, trenching, cut and fill activities, soil compaction, and possible import or export of fill material. These activities could result in erosion of soil if not properly controlled. Projects would be required to follow approved grading and erosion control plans, construction SWPPPs, water quality management plans, and proposed conditions of the RGP, LOP, WSAA Process that address erosion and sedimentation (See also discussion in Section 4.4, Water Quality). Additionally, projects would undergo individual CEQA review to address project-specific erosion and geologic concerns. Therefore, impacts of regulated activities under the proposed SAMP/WSAA Process on soil erosion and other geologic conditions would be considered less than significant.

The expansion potential of the soils in the project study area varies from moderate to very high. Expansive soils could cause structures to fail, presenting a risk of structural loss, injury, or death. As stated above, individual development and infrastructure projects permitted under the SAMP/WSAA Process would be required to undergo separate CEQA review. Projects could be required to follow special engineering techniques such as using reinforced steel in foundations, using drainage control devices, and/or over-excavating and backfilling with nonexpansive soil during construction activities to minimize the risk of structural loss, injury, or death. Potential impacts are considered less than significant.

Future projects in the Watershed would be served by sewer systems, not septic systems. However, if necessary, projects would be required to examine project-specific soil conditions as part of the local development approval process, to determine whether soils can support the use of septic tanks or other disposal systems. No impacts on soils are anticipated.

Since there are no known mineral resources in the Watershed that are of value to the region and the state, no impacts to mineral resources are anticipated by the approval of regulated activities under the proposed SAMP/WSAA Process.

Mitigation Measures

Example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific geology/soils impacts to less than significant are listed below. These are examples for a variety of different projects and do not represent an exhaustive list.

- Prior to the design and construction of a future project, a comprehensive geotechnical evaluation, including subsurface exploration and laboratory testing shall be conducted to identify any potential geologic and geotechnical hazards, such as expansive soils, landslides, slope instability, and identify measures to minimize risks to future development.
- All new structures must be designed in accordance with the latest seismic design provisions outlined in future geotechnical reports and specified in the latest Building Codes adopted by the local jurisdiction.
- Prior to issuance of a grading permit, detailed geotechnical and hydrology reports shall be prepared prior to any development approval or grading activities. These reports shall specifically address erosion control and surface runoff for both construction and long-term operations at the site.
- Erosion and sediment control measures shall be implemented as required by the local and state agencies, and in accordance with local grading and water quality ordinances.
- Where trenching is necessary on steep slopes, erosion control measures such as trench plugs, water bars or baffles will be placed on the trench.
- Place temporary sediment barriers at the base of slopes adjacent to all road or waterbody crossing where vegetation has been disturbed to prevent sediment migration off-site. Barriers will remain in place until revegetation measures are judged successful.

Upon completion of an underground utility, pipeline or drain, the alignment and working space will be recontoured to approximate original contours. Recontouring to natural lines and grades will be accomplished without disruption to any adjacent undisturbed habitat.

Level of Significance After Mitigation

No significant impacts anticipated.

4.6.6 Land Use

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts to land use may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant land use impact if it would:

- Physically divide an established community;
- Conflict with any applicable land use plan, policy, or regulation with an agency with jurisdiction over the project (including but not limited to the general plan, specific plan, local coastal program or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect; or
- Conflict with any applicable HCP or NCCP.

Impacts

The SAMP/WSAA Process establishes a watershed-specific permitting program to approve temporary and permanent discharges of dredged and fill material into waters of the U.S. pursuant to CWA Section 404 as well as alterations to lakes and streambeds pursuant to FGC Section 1600 *et seq.* in accordance with numerous general conditions and a mitigation framework designed to improve ecosystem function in the Watershed over the long-term. The SAMP/WSAA Process is not a land use-planning document that designates areas for certain land uses nor does it establish restrictions on land use. Therefore, the SAMP/WSAA Process would not result in direct conflicts with existing land use plans, policies or regulations of any land use agency in the Watershed including the regional NCCP/HCP for Central/Coastal Orange County. Likewise the SAMP/WSAA Process would not physically divide an established community since it is a permitting program to regulate discharges of dredged and fill materials and to establish a mitigation/restoration program for the long-term enhancement of the Watershed ecosystem. See also Section 11 for a general plan consistency determination.

For the seven categories of regulated activities that would be eligible for authorization under the RGP, impacts to land use would be minimal. Such activities would be associated with small maintenance projects, resulting in temporary construction impacts to a small area located in a mostly degraded landscape. For regulated activities eligible for the LOP, potential impacts on land use would vary depending on if the project is located in an aquatic resource integrity area. Projects eligible for the LOP in aquatic resource integrity areas would generally be small such as a single family home, recreational trail or utility substation, since permanent impacts to aquatic resources cannot exceed 0.1 acres under the LOP. These minor projects would not likely have a significant impact on land use. Outside aquatic resource integrity areas, most regulated activities would be eligible for the LOP, but they cannot substantially alter a compensatory mitigation site or involve flood-control related conversions of soft bottom channels to concrete-lined channels or channelization of the five major stream systems on the Watershed. Many of these projects would be subject to independent CEQA review by the local land use agency for project approval. During this review process, projects would be evaluated for potential conflicts with designated land uses and policies and appropriate mitigation and conditions would be identified to avoid or minimize such land use impacts.

Table 4-10 summarizes the total land area of each municipality within the Watershed and how much of that land has been identified as aquatic resource integrity area, subject to greater regulatory review by the Corps and the Department and greater requirements for avoidance, impact minimization and compensatory mitigation. As stated previously, future projects located in aquatic resource integrity areas are not precluded from construction, development, maintenance or other regulated activities. Projects in these areas are ineligible for the RGP, but applicants may seek coverage under the LOP on a conditional basis if there projects do not result in permanent impacts to waters of the U.S. that exceed 0.1 acres, and do not result in stream channelization in five of the major stream systems of the Watershed. The LOP requires interagency coordination and more requirements for avoidance of high quality aquatic resources. Proposed projects in the aquatic resource integrity areas that do not meet the LOP requirements may still apply for a permit under the Corps SIP process. As Table 4-10 indicates, most of the aquatic resource integrity areas are located within the County of Orange, followed by the cities of Irvine and Newport

Beach. Some of these aquatic resource integrity areas are located within the Central-Coastal NCCP/HCP Reserve System areas (See Figure 2-4 in Section 2.1.1.4)

Table 4-10. Acreage of Aquatic Resource Integrity Areas by Municipal Jurisdiction

Municipality	Total Acreage within San Diego Creek Watershed	Total Acreage of Aquatic Resource Integrity Areas within Municipal Boundary	Percent of Total Watershed Acreage within Aquatic Resource Integrity Areas
County of Orange	25719.7	9625.4	37.4%
City of Irvine	29110.1	5894.3	20.2%
City of Laguna Hills	775.7	22.8	2.9%
City of Laguna Woods	1033.4	11.4	1.1%
City of Lake Forest	4384.9	347.6	7.9%
City of Newport Beach	3031.0	883.7	29.2%
City of Orange	1210.7	163.8	13.5%
City of Santa Ana	3650.8	0	0.0%
City of Tustin	7091.2	175.8	2.5%
Total	**76007.5**	**17124.8**	

Source: Corps of Engineers, 2004

Regarding the NCCP/HCP, of the 17,133 acres identified as aquatic resources and their contributing upland areas of influence, 12,408 acres (72%) fall within the boundaries of the NCCP Reserve system. Most of the aquatic resources, including ephemeral streams and riparian habitat found within the NCCP Reserve system are located within aquatic resource integrity areas. Areas identified as aquatic resource integrity areas also extend beyond the boundaries of the NCCP Reserve system as shown in Figure 2-4.

The SAMP does not conflict with the goals and policies of the NCCP or its continued implementation and resource protection function. In fact, the NCCP and SAMP/WSAA Process have many similar goals and objectives, but the two planning processes focus on different aspects of the environment. The SAMP/WSAA Process actually may strengthen the NCCP by including conditions regarding riparian-oriented species, such as the least Bell's vireo, and providing strengthened review process for the conservation, restoration, and rehabilitation of aquatic resources located within and adjacent to the NCCP areas. The SAMP/WSAA Process includes prioritization for connecting currently disconnected NCCP areas (e.g., linking the northern and southern portions of the Watershed). The SAMP/WSAA Process was developed in coordination with NCCP stakeholders to ensure the compatibility of the two plans. SAMP consistency with the NCCP/HCP is discussed further in Section 10.1.

Impact Analysis Conclusion

No significant impacts to land use are anticipated since implementation of the SAMP/WSAA Process does not preclude implementation of local General Plans or polices, or the NCCP/HCP. Rather, the SAMP/WSAA Process requires a more detailed level of review under CWA Section 404 and FGC Section 1600 *et seq.* than under the existing Corps and Department permitting framework and potentially more opportunities for avoidance and enhancement in aquatic resource integrity areas. The SAMP/WSAA Process would not physically divide an established community; conflict with any applicable land use plan, policy or regulation; or conflict with any applicable habitat conservation plan or natural community conservation plan. Future projects that would be permitted under the SAMP/WSAA Process would be

subject to independent CEQA review by the local land use agency to determine potential impacts to land use plans and polices. Mitigation measures, if needed, would be identified by the land use agency to minimize potential impacts.

Mitigation Measures

No mitigation measures are needed since no significant impacts to land use have been identified in this programmatic document**.**

Level of Significance After Mitigation

No significant impacts.

4.6.7 Noise

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts to noise may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant noise impact if it would create:

- An exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies;
- An exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels;
- A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project; or
- A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project.

Direct Impacts

The SAMP/WSAA Process involves the establishment of a watershed-specific regulatory system for the issuance of CWA Section 404 permits (RGP and LOP) and Section 1600 *et seq.* streambed alteration agreements (WSAA Process). Under the proposed SAMP/WSAA Process, the Corps and the Department would permit temporary and permanent impacts to jurisdictional waters from seven categories of activities such as construction of bridges, land development, and public facilities/utilities in accordance with the SAMP/WSAA Process conditions and mitigation framework. The SAMP/WSAA Process itself does not generate noise, as it only authorizes discharges into jurisdictional waters, and therefore, no direct noise impacts would occur from permit approvals under the SAMP/WSAA Process.

Indirect Impacts

The proposed SAMP/WSAA Process requires applicants to seek permit approvals for construction and/or maintenance of projects in jurisdictional areas that could potentially generate noise (both short-term construction and long-term operational) in the greater Watershed area. As stated above, the program itself does not directly generate noise. The projects which would be initiated and implemented once approvals are obtained through the SAMP/WSAA Process may ultimately be responsible for generating short-term and long-term increases in the ambient noise environment.

The primary source of increased short-term noise associated with permitted activities is construction including grading and excavation for individual sites, and operation of construction vehicles and equipment. The greatest potential for noise impacts occurs when construction activities are directly adjacent to sensitive receptors (i.e., residences, hospitals, day care centers, schools, churches, and libraries). A detailed assessment of construction noise impacts would be prepared at the time a specific project is proposed, because this assessment requires specific project information that is unknown at this time such as equipment to be used, volume of materials to be moved, number of workers required, construction schedule, and location of sensitive receptors. Construction noise impacts generally can be mitigated with standard noise mitigation measures and compliance with local noise ordinances.

Indirectly, long-term increases in the ambient noise environment of the Watershed would be created by post-construction residential, commercial, and industrial land development projects and other facility/utility projects that could be permitted under the SAMP/WSAA Process. Each project would be evaluated on an individual basis through a CEQA and/or NEPA review process, independent of the Corps/Department review and permit process, to determine the anticipated increase in ambient noise levels associated with the individual project. If these increases have the potential to create significant impacts, then mitigation measures would be identified to help reduce impacts to a level of insignificance.

Other Local Regulatory Conditions

Several municipal ordinances are in place to help control project noise impacts. Some examples are described below:

- The Orange County Codified Ordinance Division 6 (Noise Control) states that construction activities are generally restricted to between 7:00 a.m. and 8:00 p.m. from Monday through Saturday. No construction activity is permitted on Sundays and Federal holidays. Construction noise during the allowed construction time periods is exempted from the noise level provisions in the noise control ordinance.
- The City of Irvine Noise Ordinance exempts construction activities from the noise level limits during specific hours of the day. Noise generating construction activities are permitted during the hours between 7:00 a.m. and 7:00 p.m. Monday through Friday, 9:00 a.m. to 6:00 p.m. on Saturday, and at no time on Sundays or national holidays (unless a temporary waiver is requested and granted). Any construction occurring within 500 feet of residential area has the potential to exceed the Noise Ordinance limits and should only occur during the time periods specified by the Noise Ordinance. Failure to comply with the Noise Ordinance could result in potentially significant fines.

Construction activities would be required to comply with the above or similar noise ordinances. Therefore, potential construction impacts would not be expected to have a significant impact. However, as stated previously, future CEQA/NEPA studies for individual projects would be conducted to address specific short-term construction and long-term operational noise impacts.

Impact Analysis Conclusion

Implementation of the SAMP/WSAA Process would not be expected to expose persons to or generate noise levels in excess of standards established in the local general plan; expose persons to or generate excessive groundborne vibration or groundborne noise levels; create a substantial increase in ambient noise levels in the project vicinity; or create a substantial temporary or periodic increase in ambient noise

levels in the project vicinity. Future projects permitted under the SAMP/WSAA Process would be evaluated in a separate CEQA review process as part of local agency project approval to determine potential for significant short-term or long-term noise impacts in the Watershed. It is expected that appropriate mitigation, as needed, would be identified by the local lead agency to reduce potential impacts to less than significant.

Mitigation Measures

The following are example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific construction and operational noise impacts to less than significant. These are examples and do not represent an exhaustive list.

- Construction equipment and materials transport shall be required to conform to the provisions in the County's Noise Ordinance (7:00 a.m. to 8:00 p.m., weekdays, including Saturday, or any time on Sunday or a Federal holiday). All equipment shall be operated in the quietest manner practicable. The contractor will be required to comply with local noise control ordinances.
- Material stockpiles and/or vehicle staging areas shall be located as far as practicable from dwellings.
- Operating equipment such as pumps, generators and other such stationary equipment will be enclosed in insulating shelters to limit noise levels in areas near dwellings.

Level of Significance After Mitigation

No significant impacts are anticipated.

4.6.8 Public Health and Safety

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant impact to public health and safety if it would:

- Result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services:
  - fire protection;
  - police protection; and
  - other public facilities
- Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials;
- Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment;
- Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school;

- Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, would it create a significant hazard to the public or the environment;
- Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan; or
- Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands.

Direct Impacts

The proposed SAMP/WSAA Process is watershed-specific permitting program for issuance of Section 404 permits and Section 1600 *et seq.* streambed alteration agreements. Under the proposed SAMP/WSAA Process, the Corps and the Department would permit temporary and permanent impacts to jurisdictional area from seven categories of activities including construction and maintenance of bridges, land development, and public facilities/utilities in accordance with the SAMP/WSAA Process requirements, general conditions and mitigation framework. The SAMP/WSAA Process is a regulatory program to replace existing case-by-case permitting to help reduce impacts to high quality aquatic resources and to restore and enhance the ecosystem of the Watershed overall. No direct impacts on public health and safety are expected from implementation of the SAMP/WSAA Process.

Indirect Impacts

As with existing case-by-case permitting, some regulated activities that could be permitted under the SAMP/WSAA Process, such as land development in the Watershed, would generate new residential, commercial and industrial land uses with their associated increases in residential population and commercial/industrial activities. This increase can have minor indirect effects on public health and safety, as the new population in the area would increase demand for: 1) existing fire and police services; and 2) utilities service systems such as sewerage, natural gas, electricity, and telephone/cable services. The increase residential population and commercial/industrial activities would also generate a minor increase in household and commercial/industrial hazardous waste in the area.

Other categories of regulated activities, in particular storm water treatment and management facilities and flood control facilities may pose a risk to public health and safety from potential vectors in areas of stagnant water. Various vector control measures coordinated with OCVCD are typically incorporated into the maintenance/management plans for these facilities to reduce potential vector risks to less than significant levels. Water safety may be another potential impact when facilities are located in urban areas with public access and filled with seasonal, deep standing water. Signage and fencing can help reduce public safety risks.

While there may be some potential for indirect effects on public health and safety risk from permitting of the regulated activities (indirect effects), risks of future projects cannot be specifically determined in this programmatic document. Instead, each project would be evaluated on an individual basis through a CEQA and/or NEPA review process, independent of the Corps/Department review and permit process, to determine the anticipated impacts to public health and safety. If an impact is identified as potentially

significant through the project-specific CEQA process, then mitigation measures would be identified as required by that process to help reduce the impact to below of a level of significance. Thus, implementation of the SAMP/WSAA Process is not expected to result in significant impacts to public health and safety.

Mitigation Measures

The following are example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific public health and safety impacts to less than significant. These are examples and do not represent an exhaustive list.

- Develop and implement a vector and pest control plan, in coordination with OCVCD, that provides vector abatement methods (e.g. application of Bti and mosquito fish stocking), and long-term monitoring and assessment to evaluate the effectivness of the control methods;
- Plant vegetation to minimize access into shallow or open water and riparian areas of facilities, such as constructed wetlands for storm water treatment;
- Place fencing around shallow and open water areas; and
- Provide signage around facilities to warn the public of potential water safety and/or vector risks.

Level of Significance after Mitigation

No significant impacts.

4.6.9 Recreation

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant impact to recreational resources if it would:

- Increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or
- Include recreational facilities or require the construction or expansion of recreational facilities that may have an adverse physical effect on the environment.

Direct Impacts

The proposed SAMP/WSAA Process would not directly affect local and regional parks, hiking and biking trails in the Watershed and other recreational facilities because the SAMP/WSAA Process is a watershed-specific permit program to replace the existing case-by case permitting program for issuance of Section 404 permits and Section 1600 *et seq.* streambed alteration agreements. Under the proposed SAMP/WSAA Process, the Corps and the Department would permit temporary and permanent impacts to jurisdictional areas from the construction and maintenance of bridges, land development, and public facilities/utilities in accordance with a Watershed-specific permit program administered by the Corps and the Department. Although the SAMP/WSAA Process identifies certain areas as aquatic resource integrity areas, the SAMP/WSAA Process does not prohibit development of new recreational resources.

The land development category of SAMP/WSAA Process covers recreational uses such as neighborhood parks/playing fields, golf courses, park administrative buildings, and attendant features such as parking lots, driveways, and local access roads (recreational land development projects). Temporary and permanent impacts of recreational land development projects have been addressed in the land development discussions throughout this document. In general, implementation of the SAMP/WSAA Process would result in greater avoidance and impact minimization in aquatic resource integrity areas, which in many cases correspond with existing Central–Coastal NCCP/HCP Reserve areas as well as regional or wilderness park areas. Identification of aquatic resource integrity areas does not preclude existing recreational uses, associated maintenance activities, or future recreational land development projects in these areas. Any proposed recreational land development projects in aquatic resource integrity areas, with over 0.1 acre of impact to native vegetation would not be eligible for the Corps LOP, but would be subject to review under the Corps SIP process and may be required to obtain a standard streambed alteration agreement from the Department. Management measures under the proposed SAMP/WSAA Process Mitigation Coordination Program would need to be coordinated with NCCP and/or park management to ensure compatibility. No significant impacts on existing recreational resources would be expected.

In addition to recreational land development projects, the Watershed contains numerous bikeways and hiking/riding trails. A number of existing bikeways and trails are proposed for extension in the Watershed, some of which closely parallel or cross major drainages. These include: Borrego Canyon Bikeway; Hicks Canyon Riding/Hiking Trail and Bikeway; Jeffrey Road Bikeway; and San Diego Creek Bikeway. Construction of proposed bike/hiking trail extensions as well as long-term trail maintenance activities that could affect the bed, bank or channel of a streambed and/or require removal of vegetation would be regulated by the Department. These activities could also be regulated by the Corps if a project requires dredge and/or fill into jurisdictional waters. Temporary impacts during construction and maintenance could include short-term disturbance of riparian and other native vegetation (until restoration is completed); temporary disturbance of wildlife inhabiting or breeding in the area; dust; noise; and potential disruption of traffic flow if near a major roadway. Permanent impacts could include loss of native vegetation and riparian habitat; potential, minor increases in storm runoff (from paved bike trails); some wildlife disturbance from trail users and their domestic pets; and possibly influx of non-native plant species.

Proposed extensions of bike trails and hiking trails requiring Corps and/or Department permits and are located within aquatic resource integrity areas could be permitted under the proposed SAMP LOP if: 1) a trail/bikeway project does not result in permanent impacts to native vegetation greater than 0.1 acres; 2) would not result in stream channelization of the five major stream channels (Borrego Canyon Wash, Hicks Canyon Wash, Peters Canyon Wash, San Diego Creek and Serrano Creek); and 3) would not substantially alter an existing compensatory mitigation site. Otherwise, such projects would require evaluation under a Corps SIP and Department standard streambed alteration agreement, subject to individual avoidance, minimization, and compensatory mitigation requirements. Trail maintenance activities (temporary impacts) could be permitted under the Corps proposed RGP if located outside an aquatic resource integrity area, or the LOP in aquatic resource integrity areas, and for the purpose of maintaining an established trail. These permit requirements as well as General Conditions of the LOP, RGP, and Level 1 – 3 SAA templates of the WSAA Process would reduce impacts to less than significant.

In some cases, projects could require independent CEQA review by the local lead agencies and would address project-specific impacts and any needed mitigation measures.

Indirect Impacts

As with existing case-by-case permitting, some regulated activities that could be permitted under the SAMP/WSAA Process (such as residential land development) could generate an increased need for new recreational facilities, and/or increase usage at existing recreational facilities, which could be considered an indirect effect. Additional demands for recreational facilities cannot be specifically determined in this programmatic document. Therefore, individual projects covered under the SAMP/WSAA Process would undergo separate CEQA review, at which time impacts to recreational facilities would be determined, along with appropriate mitigation, as necessary. Municipalities of the Watershed have recreation and park planning goals and policies listed in their general plans, and have implemented strategies to provide local park facilities and recreation areas that are appropriate for the individual neighborhoods and communities within their respective jurisdictions. Thus, implementation of the SAMP/WSAA Process is not expected to result in significant impacts to these resources.

In addition to land development activities, other regulated activities such as construction and maintenance of utilities, bridges, flood control facilities, could temporarily disturb existing recreational areas if construction and/or maintenance occurs within or directly adjacent to a neighborhood, regional or wilderness park. For example, a park user may experience a temporary degradation in the recreation experience from increased noise, increased dust, and change in visual character. Also, local access could be temporarily interrupted or impeded. These disturbances would be limited to the short-term construction period. The principal long-term, (indirect effect) of the regulated activities on existing recreational facilities may be the change in aesthetic qualities (e.g. permanent removal of vegetation, installation of rip rap, construction of a new culvert or new bridge). Individual projects covered under the SAMP/WSAA Process would undergo separate CEQA review by the local lead agency, at which time impacts to recreational facilities would be determined, along with appropriate mitigation, as necessary. Thus, implementation of the SAMP/WSAA Process is not expected to result in significant impacts to these resources.

Impact Analysis Conclusion

Implementation of the SAMP/WSAA Process would not be expected to increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated; or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment. Through adherence to park and recreation strategies developed by the local land use permitting jurisdiction, along with adherence to the Corps RGP and LOP and the Department's general conditions, where required, potential impacts to recreation resources would be considered less than significant.

Mitigation Measures

No mitigation measures are needed since no significant recreational impacts have been identified.

Level of Significance After Mitigation

No significant impacts.

4.6.10 Socioeconomics

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant socioeconomic impact if it would:

- Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure);
- Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere; or
- Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere.

Direct Impacts

The proposed SAMP/WSAA Process would not directly affect socioeconomic conditions in the Watershed because the SAMP/WSAA Process is a Watershed-specific permit program to replace the existing case-by case permitting for issuance of Section 404 permits and Section 1600 *et seq.* streambed alteration agreements. Under the proposed SAMP/WSAA Process, the Corps and the Department would permit temporary and permanent impacts to jurisdictional waters from specific regulated activities such as construction and maintenance of culverts, bridges, flood control facilities, utilities and as development of land in accordance with a watershed-specific permit program.

Construction of flood control facilities, bridges, culverts, utility projects and new land development projects under the SAMP/WSAA Process would not physically divide an established community nor displace substantial numbers of residents. Construction activities would take place in existing or planned development areas within the Watershed in accordance with approved local land use plans, County MPAH, and local agency capital improvement plans. There are no known major planned projects in the Watershed that would be expected to divide any existing community or displace local residents.

Indirect Impacts

As with existing case-by-case permitting, future land development permitted under the proposed SAMP/WSAA Process would indirectly increase housing in the Watershed, and thus, indirectly induce population growth. Planned growth would occur in accordance with the general plans and housing elements of the local jurisdictions. Housing opportunities would be developed to support growing job opportunities and projected population increases to meet the City of Irvine's RHNA (City of Irvine 1999), which would encourage future populations to reside and work in Irvine. Residential development projects would help meet housing demand based on job and population growth projections. Land development would also result in some new industrial, commercial/retail development projects, in accordance with the general plans and economic policies of the local jurisdictions. These developments would generate income for the area, which would also be considered an indirect, beneficial effect on socioeconomic conditions. Further, construction jobs for land development projects would increase jobs and income for the local economy. In summary, land development projects would induce planned population growth and would create beneficial effects on the socioeconomic conditions in the Watershed, including the opportunity to meet housing projection needs and help increase income in the County.

Additional demands for housing and the growth in population cannot be specifically determined in this programmatic document. However, individual projects covered under the SAMP/WSAA Process would undergo separate CEQA review, at which time potential socioeconomic impacts would be determined, along with appropriate mitigation, as necessary. Thus, implementation of the SAMP/WSAA Process is not expected to create in significant adverse socioeconomic impacts in the Watershed.

Mitigation Measures

No mitigation measures are needed since no significant socioeconomic impacts have been identified.

Level of Significance After Mitigation

No significant impacts.

4.6.11 Transportation/Circulation

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant traffic impact if it would:

- Cause an increase in traffic which is substantial in relation to the existing traffic load and capacity of the street system (i.e., result in a substantial increase in either the number of vehicle trips, the volume to capacity ratio on roads, or congestion at intersections);
- Exceed, either individually or cumulatively, a level of service standard established by the county congestion management agency for designated roads or highways;
- Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks;
- Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment);
- Result in inadequate emergency access;
- Result in inadequate parking capacity; or

- Conflict with adopted policies, plans, or programs supporting alternative transportation (e.g., bus turnouts, bicycle racks).

Direct Impacts

The SAMP/WSAA Process involves the establishment of a watershed-specific permitting system for the issuance of CWA Section 404 permits (RGP and LOP) and Section 1600 *et seq.* streambed alteration agreements (i.e., Level 1 – 3 SAA templates of the WSAA Process) to replace existing case-by-case permitting. Under the proposed SAMP/WSAA Process, the Corps and the Department would authorize temporary and permanent impacts to jurisdictional areas from seven categories of activities such as construction of bridges, land development, and public facilities/utilities in accordance with the SAMP/WSAA Process conditions and mitigation framework. The SAMP/WSAA Process itself does not generate traffic, as it only authorizes discharges into jurisdictional waters, and therefore, no direct traffic impacts would occur from permit approvals under the SAMP/WSAA Process.

Indirect Impacts

The proposed SAMP/WSAA Process requires applicants to seek permit approvals for construction and/or maintenance of regulated activities in jurisdictional areas. In consideration of indirect effects of the regulated activities, once approvals are obtained through the SAMP/WSAA Process, some of the activities would be responsible for increasing traffic to the local and regional street system of the Watershed, both in the short-term construction phase and long-term operational phase.

Short-term construction and/or maintenance activities associated with each regulated activity could potentially generate short-term traffic impacts in various locations of the Watershed. The primary source of increased short-term traffic is construction worker vehicles traveling to and from the construction site and truck traffic associated with soil import/export from a site. Specific construction activities, level of activity, and the location of construction activity could continually change throughout the course of project development. Because of the different phases of construction, no single location would experience a long-term increase in traffic. Maintenance and operation activities for any of the regulated activities would result in additional traffic from maintenance workers traveling to the various sites within the Watershed. These maintenance activities would generate short-term, mostly minimal increases in traffic, and could temporarily disrupt traffic flow if maintenance activities require work in the street right-of-way. However, no significant impacts would be expected. A detailed assessment of construction traffic impacts would be prepared at the time a specific project is proposed, because this evaluation requires information that depends on project details unknown at this time including the volume of any materials to be moved, the number of workers required for the project, the duration of the construction, the exact month of construction, and the potential for overlap in construction schedules. As a result, construction-related traffic impacts would have to be calculated and evaluated on an individual basis, by project, to determine the level of significance. Construction traffic impacts generally can be mitigated with standard mitigation measures such as implementation of a construction management traffic plan.

Long-term, land development projects permitted under the SAMP/WSAA Process would be expected to generate increases in local traffic volumes from new residential, commercial and industrial projects, and could require the addition and/or expansion of local roads to meet local and regional circulation needs. New roads would be planned in accordance with the County MPAH and local general plans. Specific circulation patterns and roadways would incorporate all applicable civil engineering and city/county fire

department standards to ensure that hazardous design features are avoided and adequate emergency access and parking capacity would be provided. Such projects would be required to prepare individual traffic impact studies. Local land use agencies within the Watershed have established goals that ensure circulation plans conform to applicable environmental quality standards (County of Orange 2004). Some of the objectives associated with these plans require the developer to conduct alignment studies such that roads are planned and developed in a manner which minimizes impacts associated with crossing of flood plains or drainage courses; wildlife and open space areas. Each project would be required to undergo separate CEQA review, at which time mitigation measures, if necessary, would be determined. Thus, implementation of the SAMP/WSAA Process is not expected to result in significant traffic impacts.

Additionally, the proposed SAMP/WSAA Process would not conflict with adopted policies, plans, or programs supporting alternative transportation.

Mitigation Measures

The following are example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific construction and long-term operational traffic impacts to less than significant. These are examples and do not represent an exhaustive list.

- Coordinate traffic lane closures with the County of Orange and appropriate local police and fire departments;
- Provide adequate safety provisions (e.g., signage, traffic cones, flags) as needed to identify construction work areas;
- Prohibit construction related vehicles from parking on residential streets;
- Require construction equipment staging to occur on the project site to minimize disruption to local streets;
- Require delivery of construction equipment and materials to the project site during off-peak travel periods (9:00 a.m. – 4:00 p.m.); and
- Develop and implement a traffic management plan (TMP) approved by the local lead agency that contains a traffic study to determine traffic impacts and necessary traffic improvements as well as a other various means to manage project-related traffic and transportation access to and from the project site.

Level of Significance After Mitigation

No significant impacts.

4.6.12 Visual Resources

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant impact to visual resources if it would:

- Have a substantial adverse effect on a scenic vista;
- Substantially damage scenic resources, including, but not limited to, trees, rock outcroppings, and historic buildings within a state scenic highway;
- Substantially degrade the existing visual character or quality of the site and its surroundings; or

- Create a new source of substantial light or glare which would adversely affect day or nighttime views in the area.

Direct Impacts

Activities in areas under Corps and Department jurisdiction could directly impact visual resources. The potential for such impacts and mitigation are covered in the discussion below.

Indirect Impacts

Projects permitted under the SAMP/WSAA Process may direct and/or indirectly affect visual resources in the Watershed in the short-term and in the long-term. Short-term construction associated with the installation of bridges, public facilities/utilities and land development would cause various disturbances to landforms from grading, excavation, stockpiling, and filling. The presence of construction equipment such as large trucks, bulldozers and other vehicles at a construction site would create a visual impact in the construction zone. Additionally, grading of hillsides may be visible from a broader area of the Watershed, thus creating a more substantial visual impact. In general, these short-term construction impacts are considered adverse, but not significant, because they would be temporary and mostly localized, and because construction activities including hillside grading are not uncommon in the region.

Long-term visual changes are associated with permanently altering the natural topography, demolishing buildings and structures and constructing new buildings and structures. The significance of visual effects is very subjective and depends upon the degree of alteration, the scenic quality of the area disturbed, the sensitivity of the viewers, and the viewer perception of the features in the viewshed.

Most remaining new development in the Watershed would result in the conversion of remaining tracts of agricultural land and former MCAS El Toro lands into suburban residential, commercial and open space/park uses similar to the majority of existing development in the Watershed. Such areas are located in the northern and eastern portions of the Watershed. This conversion would alter the visual character of localized areas, and also impact views of surrounding Sanitago and San Joaquin Hills in some locations. However, new residential and commercial development would be planned and designed in accordance with the existing suburban/urban character of the area, and would not be expected to produce a significant visual change in the Watershed overall, though some local areas could experience significant visual impacts (both in terms of obstruction of views and change in visual character). Also, scenic views of rural and natural areas from Sand Canyon, Jeffrey Road, Culver Drive and Laguna Canyon Road may be impacted as well. New land development would also introduce new sources of light and glare. However, light that would be generated would be typical of urban development, and would not substantially affect views in this area either at night or during the day. Typical development standards required by local zoning ordinances would address the issue of light and glare. To ensure visual compatibility and enhancement of the surrounding environment, new development projects covered under the SAMP/WSAA Process would be subject to a separate CEQA review process, at which time, specific project impacts would be identified. If needed, mitigation measures would be developed under the separate CEQA review process to help reduce visual impacts to less than significant levels.

Proposed bridges would generally occur in undeveloped areas across drainage channels and would potentially cause a visual disruption of the waterway's linear form and the scenic background. These construction activities also introduce a new man-made visual feature and could contrast sharply with the natural visual elements of the drainage and surrounding area. Streambed stabilization could potentially consist of rip-rap along the undeveloped banks, which would add man-made features to an existing

natural feature. Bridge development and streambed stabilization measures would alter the existing visual character of the site and its surroundings, however, the requirements of the SAMP/WSAA Process, which will protect and enhance the aquatic and riparian ecosystem in the Watershed, would ensure that no long-term, substantial degradation of the visual character or quality of any site and its surrounding would result. Other regulated activities such as flood control and utility maintenance activities would not substantially affect the existing scenic environment, and most such activities would be short-term. Individual projects would be required to undergo separate CEQA review. At that time, potential significant visual resource impacts and appropriate mitigation measures would be determined by the local lead agency.

Mitigation Measures

The following are example mitigation measures that could be required by local lead agencies during a separate CEQA review process to reduce any project-specific visual impacts. These are examples and do not represent an exhaustive list.

- A landscape plan prepared by a licensed landscape architect shall be submitted to the local lead agency for review and approval to ensure landscape designs meet local requirements and are compatible with the surrounding landscape.
- A street lighting plan shall be prepared for review and approval by the local lead agency specifying the amount, location, height and intensity of street lighting, limited to the minimum necessary for public safety, to reduce the potential light and glare and incident spillover into adjacent properties and open space.
- To minimize visual impacts from utility and flood control projects such as water tanks, pump stations, sediment and flood detention basins, the following techniques shall be considered and implemented as appropriate: minimize visual impacts through partial burying of tanks or reservoirs, berming or filling in around the perimeter or use of landscaping that is compatible in appearance with adjoining natural open space areas. Revegetate slopes associated with access roads with native vegetation.

Level of Significance After Mitigation

No significant impacts.

4.6.13 Water Supply and Conservation

Significance Thresholds

Under CEQA, the lead agency must determine if any potential impacts may be considered significant. For purposes of this analysis, the SAMP/WSAA Process may be determined to have a significant impact to water resources if it would:

- Require new or expanded water entitlements and resources to serve the project.

Direct Impacts

The SAMP/WSAA Process involves the establishment of a watershed-specific permitting system for the issuance of 404 permits and streambed alteration agreements. Under the proposed SAMP/WSAA Process, the Corps and the Department would authorize temporary and permanent impacts to jurisdictional areas from the construction and maintenance of bridges, land development, and public facilities/utilities in accordance with the SAMP/WSAA Process procedures. Implementation of the SAMP/WSAA Process

would not result in direct impacts to the local water supply, as the SAMP/WSAA Process is a regulatory system that authorizes discharges of dredged and fill materials to jurisdictional areas, and replaces the existing case-by-case permitting.

Indirect Impacts

As with existing case-by-case permitting, some regulated activities that could be permitted under the SAMP/WSAA Process, such as land development for residential, commercial industrial, institutional and recreational facilities, may result in increased water consumption in the region, an indirect impact to water supply. Specific increases in water consumption and demand for imported water and local groundwater cannot be determined in this programmatic document. IRWD, the major water supply agency serving the Watershed has projected future water demand based on build-out of local land use general plans and has demonstrated its ability to provide adequate supply through projected build-out in 2025 and beyond to 2030 (IRWD 2005). IRWD's methods for increasing available supply include increase use of local groundwater, improvements in conservation efficiency, and expansion of recycled water use. No new or expanded entitlements would be required.

Existing state and local policies have been established to help address potential impacts to water supply. For example, Senate Bill No. 221[1] and Senate Bill No. 610[2], which were enacted in 2002, require new development to meet certain criteria and provide substantial evidence of available water supplies in the event of drought. Specifically, SB 221 prohibits approval of a tentative map, or a parcel map, or a development agreement for a subdivision of property of more than 500 dwelling units, unless the legislative body of a city or county provides written verification from the applicable public water system that a sufficient water supply is available, or, in addition, a finding is made by the local agency that sufficient water supplies are, or will be, available prior to project completion. SB 610 requires public water systems to prepare Water Supply Assessments for projects that require either an EIR or amendments to general or specific plans.

Additionally, the County of Orange (2004) requires will-serve letters from water purveyors prior to approval or extension of approval of tentative tract maps. This provides assurance that the responsible water agencies are capable of coordinating delivery through construction of necessary facilities. Furthermore, the County of Orange General Plan Land Use Element provides for the phasing of development consistent with the adequacy of public services and facilities. In the case of water supply facilities, the absolute necessity of water service to development will ensure adequate incremental water capacity.

Thus, local and state requirements would help ensure the adequacy of the public water supply for a project has been addressed before the project is approved. Therefore, any potential water supply impact associated with a future project permitted under the SAMP/WSAA Process would be mitigated in accordance with local and state requirements to a level considered less than significant.

Mitigation Measures

None needed since no significant water supply and conservation impacts are anticipated.

[1] Text of Bill is available at http://www.groundwater.water.ca.gov/docs/sb_221_bill_20011009_chaptered.pdf.
[2] Text of Bill is available at http://www.groundwater.water.ca.gov/docs/sb_221_bill_20011009_chaptered.pdf.

Level of Significance after Mitigation

No significant impacts.